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THE
ALASKA ECONOMIC
INFORMATION AND REPORTING SYSTEM

QUARTERLY REPORT
OCTOBER 1981

STATE OF ALASKA
JAY S. HAMMOND, GOVERNOR

RONALD LEHR, DIRECTOR
DIVISION OF BUDGET AND MANAGEMENT

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FORWARD

This is the first AEIRS Quarterly Report written in-house by the Division of Budget and Management. Prior reports over the past year were prepared by the author of the AEIRS econometric model, Dr. David M. Reaume. To preserve continuity with previous issues, roughly the same format has been used, and changes in Control forecast assumptions have been modest.

In this report we present and discuss our current Control or "best judgement" forecast of the Alaska economy. While this is an econometric forecast in the sense that it has been made with the AEIRS quarterly econometric model, it is not solely the product of that model. Where it seemed appropriate we have judgementally adjusted the forecast to take account of recent information on the pace of economic activity, and have also fine tuned the model where preliminary testing suggested the need. This is standard practice and reflects the fact that economic model building is still an imperfect art.

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SUMMARY

Future economic growth and increases in employment depend primarily on developments in the petroleum industry. This industry provides approximately ninety percent of state government revenue. When all employment effects generated by state government expenditures are considered, the author conservatively estimates that at least one-third of the labor force employed in Alaska is dependent on the petroleum industry.

The impact of state government spending and loan programs can be seen by the per capita size of the most recent state budget. For fiscal year 1982, over $3.8 billion of general fund appropriations, exclusive of Permanent Fund contributions, were enacted into law. This amounts to a per capita appropriation of over $9,000, which is far higher than that of any other state.

The sizable reduction in forecasted state oil and gas revenues in 1982 and beyond is thus a major negative factor affecting future employment and income. A primary forecasting question, on which there is no consensus, but which directly affects state revenue projections, is the future behavior of crude oil prices.

For particular industries, the following points are notable:

The petroleum industry in Alaska has been dominated by three developments in 1981: (1) continued strong activity in exploration for commercially viable oil and gas fields, (2) weakness in world crude oil prices, and (3) uncertainties concerning the Alaska Natural Gas Transportation System (ANGTS) and petrochemical development. Current activity points toward a full scale oil exploration boom in 1982. This outlook could be overly optimistic if crude oil price weakness persists into 1982.

Congressional passage of the Alaska National Interest Lands Conservation Act cleared the way for stepped up nonpetroleum development. The feasibility study stage of molybdenum mining at Quartz Hill is proceeding, with an investment of at least $850 million and a construction work force of 1,000 required to start production by 1987.

Construction, both commercial and residential, was on the upswing by the second quarter of 1981, and reached near boom conditions by the third quarter. Residential construction was facilitated by low Alaska Housing Finance Corporation mortgage rates, which financed at least 90 percent of new single family residences. Commercial construction in Anchorage picked up substantially from comparable periods last year, with contracts awarded for large office buildings and municipal projects.

The logging industry in southeast Alaska had its worst year since 1968. Prospects for this industry in 1982 are not much brighter.

In commercial fishing, salmon fishermen's income increased substantially in many areas relative to the strike-affected 1980 results. A large pink and sockeye salmon catch helped maintain above average employment in the seafood processing industry.

THE ALASKA ECONOMY
PERFORMANCE SUMMARY
1978 to 1983

	History			Forecast		
	1978	1979	1980	1981	1982	1983
Population, Mid-Year 1/	411.2	406.2	403.0	416.0	430.9	442.4
Percent Change	(+0.7)	(-1.2)	(-0.8)	(+3.2)	(+3.6)	(+2.7)
Nonagricultural Employment	163,190	166,549	169,761	178,565	187,554	194,590
Percent Change	(-1.7)	(+2.1)	(+1.9)	(+5.2)	(+5.0)	(+3.8)
Resident Personal Income 2/	4.312	4.532	5.078	5.895	6.809	7.651
Percent Change	(+0.4)	(+5.1)	(+12.0)	(+16.0)	(+15.5)	(+12.4)
Anchorage CPI (1967=1.000) 3/	1.875	2.070	2.282	2.485	2.718	2.960
Percent Change	(+7.1)	(+10.4)	(+10.3)	(+8.9)	(+9.4)	(+8.9)
Bank Deposits 4/	1,749.1	1,794.2	1,932.2	2,168.9	2,492.7	2,911.5
Percent Change	(+8.8)	(+2.6)	(+7.7)	(+12.3)	(+14.9)	(+16.8)
Savings and Loan Deposits 4/	216.3	220.7	272.0	348.7	352.2	343.7
Percent Change	(+5.0)	(+2.0)	(+23.3)	(+28.2)	(+1.0)	(-2.4)

1/ Includes Military.

2/ Billions of dollars. Revised.

3/ Index for all urban consumers.

4/ Millions of dollars. Average of January, April, July, and October end of month deposits for savings and loan associations. Average of March, June, September, and December end of month deposits for banks.

Turning our attention to general economic conditions, we believe that the most indicative AEIRS measure of economic performance is nonagricultural employment. For reasons given in the "Control Forecast," this AEIRS report reduces estimated nonagricultural employment by 1.4 percent for the fourth quarter of 1980, and by 1.3 percent for the first quarter of 1981. Nonagricultural employment is expected to grow by 5.0 percent in 1982 and 3.8 percent in 1983. The current forecast shows a slight decrease from the July, 1981 forecast in 1982 employment growth, as a consequence of a less favorable outlook for the logging industry and anticipated cutbacks in federal employment.

This AEIRS report points out the quandary analysts are in when forecasting inflation and interest rates. The U.S. economic situation in 1981 had certain aspects which were without precedent, which makes accurate forecasting of inflation and interest rates almost impossible.

Section III discusses the financial issues which remain obstacles to the construction of ANGTS. These issues are discussed because of the large potential impact ANGTS will have on the state economy, and the long delays in proceeding with this project.

II. CONTROL FORECAST

The maximum potential rate of economic growth in Alaska is dependent primarily on developments in the petroleum industry. Although only a small fraction of the work force in Alaska is employed directly by this industry, it provides approximately ninety percent of the revenue to the state government. This revenue, in turn, enables state government to directly employ over eight percent of Alaska's labor force.

When both direct and indirect employment effects generated by all state government expenditures are considered, the author conservatively estimates that at least one-third of the labor force employed in Alaska is dependent on the petroleum industry.*

The overall impact on employment of state government spending and loan programs can be seen by comparing the size of the most recent state budget with resident personal income. For fiscal year (FY) 82, over $3.8 billion of General Fund appropriations, exclusive of Permanent Fund contibutions, were enacted into law. This amounts to a per capita appropriation of over $9,000. Resident personal income for FY 82 (July 1, 1981 to June 30, 1982) is projected to be less than $6.4 billion, or about $15,000 per capita (see Table II in the Appendix). Thus, State government appropriations in FY 82 amount to more than 60 percent of personal income. In comparison, federal government appropriations are less than 30 percent of U.S. personal income.

Weakness in world oil demand has lowered inflation-adjusted petroleum prices. The sizable reduction in projected state revenue for 1982 and subsequent years is thus a major negative factor affecting potential future employment and income. The particular distribution of effects depends on how available revenue is allocated among operating and capital budgets, the permanent fund, and loan programs.

A primary forecasting question is whether crude oil price stability will persist into 1982 and beyond. If this is simply a temporary phenomenon, then our forecast should be fairly accurate, with a strong state economy in 1982 and 1983. However, if this price weakness represents a fundamental "structural" change in the U.S. and world economies, our forecast may be overly optimistic for 1983. If some alternative forms of energy are currently price competitive, this would signal a fundamental structural change. The phrase "may be overly optimistic" is used because future levels of state capital spending have been estimated conservatively in this forecast.

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*A direct effect is one in which government spending or lending directly creates employment. In addition to state employees, examples of direct effects are government payments to private industry for goods and services, and state government grants to municipalities which use these funds to hire employees.

State expenditures increase the income of individuals and firms. As this income is subsequently spent, this results in a "multiplier effect." These indirect and income-induced effects increase private sector revenue, which increases the amount of labor used by private industry.

There is a wide divergence of opinion regarding future behavior of world oil prices. According to a recent issue of Forbes (September 14, 1981, pp. 42-43), the chairman of Standard Oil of California believes the real price of oil (i.e., the inflation adjusted price) will rise at around three percent annually for the next two decades. However, the deputy director of the Stanford University Energy Modeling Forum forecasts no change in the nominal oil price for at least the next three to five years, which means, during this period, the real price of oil will fall inversely with the inflation rate. This divergence of opinion can be multiplied by other examples. Because of the crucial importance of the future behavior of oil pricing, it is likely that we will present our own analysis of this issue in a future AEIRS report.

For reasons given in the footnote below, employment estimates for most industries are revised downward for the 1980, fourth quarter, and 1981, first quarter periods.** Total nonagricultural employment corresponding to these periods is reduced, respectively, by 1.4 percent and 1.3 percent.

Besides the effects that occur from the normal upcating of data, there are three main adjustments in assumptions from the July, 1981 AEIRS report. These are a much reduced timber cut in 1981 and 1982, a significantly increased salmon fish catch for 1981, and a modest reduction in federal employment in 1982 and 1983.

1981, YEAR TO DATE

The Alaskan oil and gas industry has been dominated by three developments in 1981: (1) continued strong activity in exploration for commercially viable oil and gas fields, (2) weakness in world crude oil prices, and (3) uncertainties concerning the Alaska Natural Gas Transportation System (ANGTS) and petrochemical development. Exploratory work on large on-shore satellite fields near Prudhoe Bay is proceeding at an intensive pace. Possibly even greater interest has occurred in the Beaufort Sea deposits, and current activity points toward a full scale oil exploration boom in 1982. This optimistic outlook could be tempered somewhat if crude oil price weakness persists into 1982.

**The data for actual nonagricultural employment by industrial sector is obtained from the Alaska Department of Labors' (ADOL) Statistical Quarterly. The information in this publication is gathered from mandatory employers quarterly unemployment insurance reports filed with the ADOL. Because of an incomplete switchover from a partially computerized to a fully computerized information system, the latest available Statistical Quarterly is for the third quarter of 1980.

The ADOL has estimated employment by industrial sector (Report No. ES-202) for the 1980, fourth quarter, and 1981, first quarter periods. The set of definitions used in ES-202 conforms with that in the Statistical Quarterly. However, the source for the ES-202 numbers is household survey data, which uses different definitions. The conversion from one set of definitions to another, and the fact that a not identical population is being observed, will lead to unavoidable numerical errors. In addition, sampling error will be present. Consequently, the estimates obtained by using ES-202 probably will not be highly accurate. The author decided to use a weighed averaged of the ES-202 employment data and the corresponding AEIRS July, 1981 projected employment data for the above two periods. The weights were one-third for the ES-202 data, two-thirds for the July, 1981 AEIRS data.

The weakness in world oil prices requires some elaboration. In 1981, a generally unanticipated world oil surplus developed as a market reaction to artificially high petroleum prices. This occurred despite the considerable reduction in oil production in Iran and Iraq (caused by their border war). This reaction took the form of a deceleration in the growth rate of world oil and gas consumption and a substitution of other energy forms. In the U.S., oil consumption actually declined. As a consequence of oil price weakness, Alaska Department of Revenue forecasts of state oil revenues for FY82 and future years were reduced as the year progressed. The September, 1981 estimate of FY82 state oil revenues was reduced by about $840 million from the September, 1980 estimate.

In prior years, development of nonpetroleum mining in Alaska was inhibited by uncertainties over the Alaska lands issue. With congressional passage of the Alaska National Interest Lands Conservation Act, the way was cleared for accelerated minerals development.

In late 1974, U.S. Borax filed mining claims at Quartz Hill, 75 miles east of Ketchikan, where major deposits of molybdenum were indicated. Exploratory work on these deposits proceeded, but a full scale commitment to investigate this site occurred only after passage of the Alaska Lands Act. At Quartz Hill, the total potential recovery of molybdenum sulfide is estimated at 2 billion pounds with a market value of $18 billion. Optimistically, the development will require an investment of $350 million to get the mine into production by mid-1987. About 750 permanent workers will be needed to operate the mine, and the construction work force will number around 1,000.

A sharp reversal took place in the construction industry this year. Residential housing construction, which declined for three years (1978-80), expanded substantially in 1981. Occurring primarily in the largest cities, this housing boom has been facilitated by the Alaska Housing Finance Corporation (AHFC) financing at least 90 percent of single unit housing loans. The 9-10 percent AHFC mortgage rates during the January-July period were significantly lower than the 14 percent conventional mortgage rate in Seattle. However, since August 1, AHFC rates have been tied to their cost of capital. The AHFC rate has climbed to 12 1/8 percent by late September, and this may slow down the expansion in residential construction.

Commercial construction in Anchorage, which was depressed in the first quarter of 1981, recovered during the second and third quarters. Contracts were awarded or in the final negotiation stage for the construction of large office buildings, a major shopping center and large scale municipal projects. These include the 21-story, $60 million ARCO headquarters expansion, the Quadrant Group's combination residential/shopping center and the TRF Management Corporation's $40 million, 14-story complex.

In 1981, the logging industry in southeast Alaska had its worst year since 1968. The prosperity of this industry depends on high levels of housing construction, which in turn rests on low mortgage interest rates. Unfortunately, opposite conditions prevail nearly worldwide in the housing and financial markets. At least ninety percent of Alaskan exported timber is purchased by Japan. Because of a severe recession in the Japanese housing market, and ample Japanese stocks of timber, the southeastern cut got off to a slow start, which persisted throughout the season.

With the exception of herring, shrimp, and some species of crab, the year was good to excellent for Alaska's fishing industry. Record pink and sockeye salmon catch occurred in many areas which substantially increased commercial salmon fishermen's income almost everywhere in Alaska. This forecast reflects increased employment in seafood processing from levels shown in the last forecast.

EMPLOYMENT, 1982 and 1983

Great uncertainties exist concerning the U.S. employment and inflation outlook. With respect to employment, the Alaskan economy appears to be fairly well insulated from the effects of moderate changes in U.S. economic activity. Of course, a severe U.S. recession would affect adversely the demand for Alaskan oil and gas. This, through its negative effects on state revenues would reduce employment growth in Alaska.

The current AEIRS Control forecast shows gains in nonagricultural employment of 5.0 percent in 1982 and 3.8 percent in 1983. The 1982 percentage increase is revised slightly downward from the 5.1 percent gain in the July, 1981 forecast. Two reasons account for this small decrease. The first one is a less favorable outlook for the logging industry. The demand for Alaskan timber will be reduced due to a continued poor outlook for the Japanese housing market. The second reason is a modest reduction from the July federal employment forecast. This decrease is predicated on the success of the Reagan Administration in reducing federal spending.

On an industry by industry basis, average projected annual rates of employment growth from 1981 to 1982 are: mining 7.4 percent; construction 8.6 percent; manufacturing 8.9 percent; transportation, communications and public utilities 4.6 percent; retail trade 4.7 percent; wholesale trade 8.9 percent; finance, insurance and real estate 7.7 percent; services 3.4 percent; federal government 0.1 percent; state government 3.4 percent; local government 5.4 percent.

THE INFLATION AND INTEREST RATE OUTLOOK

The inflation rate assumptions remain essentially the same as those used in the July, 1981 forecast. These are a sluggish national economy, a continued worldwide surplus of crude oil, and an increase in U.S. and world food supplies. Theoretically, these conditions lead to a lower inflation rate. The current 1981-1983 AEIRS forecast of Anchorage consumer price inflation lies within the 8.8 to 9.5 percent range.

For the 12 months ended July 1981, the all items, all urban Anchorage Consumer Price Index (CPI) was up 7.7 percent. The corresponding national inflation rate was 10.7 percent, a full three percentage points above the Anchorage rate. The main reason for the difference was the relatively low 7.1 percent increase in the Anchorage housing component. This subindex accounts for over 50 percent of the Anchorage all items index.

The inflation rate in Fairbanks was higher than in Anchorage over the past year. The Fairbanks, all items, all urban CPI recorded a 10.0 percent gain for the year ended June, 1981.

Two new fundamental and interrelated problems appear to exist when trying to forecast inflation and interest rates. First, the U.S. and world economies are in a unique complex of circumstances that have not been duplicated in prior periods. Since no analogous historical precedents seem to be available, there is no sound econometric way to make inflation and interest rate forecasts. Second, conventional economic theories do not appear to explain current monetary phenomena in a satisfactory way. Consistently correct econometric forecasts cannot be made without an adequate underlying economic theory.

According to Dr. Milton Friedman, writing in the September 21, 1981 issue of Newsweek, "Current high interest rates offer a puzzle for which . . . we have no satisfactory explanation. While many explanations are glibly offered, all of them are contradicted by past experience."

ANCHORAGE CONSUMER PRICE INFLATION*
(Percent)

	Percent Change in Annual Average over Previous Year's Annual Average				
	1979	**1980**	**1981**	**1982**	**1983**
Apparel and Upkeep	2.4	9.8	6.1	5.6	5.4
Food and Beverages	10.6	6.8	5.7	8.7	7.6
Entertainment	2.7	6.0	6.5	6.5	6.0
Housing	11.8	10.2	9.1	10.4	10.0
Transportation	10.6	15.3	11.1	7.0	7.9
Medical Care	9.0	14.0	10.4	9.6	10.0
Other Goods and Services	7.2	8.1	7.1	8.8	8.2
All Items	10.4	10.3	8.9	9.4	8.9

*As measured by the percent change in the Anchorage Consumer Price Index for all urban consumers.

A good source of information on interest rate forecasting is the September, 1981 Morgan Guarantee Survey article, "Forecasting Interest Rates: Some First Principles." It states that "[In two periods over the past year,] interest rates behaved in precisely the opposite manner from what had been expected. That kind of track record has led many analysts to despair at ever again being able to predict changes in interest rates."

For a discussion and analysis of three principal explanations of recent U.S. inflation, see the April, 1980 AEIRS report. These explanations relate inflation to expansion of the money supply, to government deficit spending, or to an 'overheated' national economy. A major conclusion from that report is, "All three popular [inflation] theories simply do not bear up well under the evidence."

SELECTED INTEREST RATES
(Percent)

	Calendar Quarters							
	History			Forecast				
	80:4	81:1	81:2	81:3	81:4	82:1	82:2	82:3
90-day U.S. Treasury Bills	13.61	14.39	14.91	15.04	13.58	14.47	14.75	14.29
90-day Euro-dollar Rate	16.46	16.83	17.62	18.29	16.06	16.95	17.58	17.14
Moody's AAA Corporates	12.83	13.16	13.98	14.63	14.67	14.49	14.43	14.35
State & Local AAA General Obligations	8.84	9.31	9.85	10.95	11.40	10.99	11.16	11.06
Conventional Mortgage Rate, Seattle	13.41	13.72	14.62	14.08	13.38	13.47	13.57	13.66

ACKNOWLEDGEMENT: Forecasts of all but the Seattle Mortgage rate were obtained from the Data Resources, Inc., September 1981 "Control" Forecast of the U.S. Economy.

III. ALASKA NATURAL GAS TRANSPORTATION SYSTEM (ANGTS)

by Ronald D. Ripple

The July, 1981 AEIRS report presented potential employment, income and price impacts attributable to the construction and operation of the ANGTS pipeline. The present report discusses the issues which remain as obstacles to the commencement of construction.

Can private financing be secured for the ANGTS line? The past and present difficulties in securing project financing are primarily attributable to the riskiness of the ANGTS project. The private financial community would like to reduce the uncertainties associated with the completion of the pipeline and the marketability of the natural gas. In June 1981, the sponsors submitted to the White House a draft document entitled "Required Waiver of Law Concepts for Private Financing." This waiver package lists concessions to the 1977 presidential decision on the pipeline which are suggested as necessary for private financing. Note that federal government acceptance and passage of the concessions in the waiver package will not guarantee the availability of private sector financing.

The waiver package consists of the following six elements:

1. Billing Commencement
2. Producer Equity
3. Conditioning Plant
4. Regulatory Consistency
5. Regulatory Reform to Achieve Expedition
6. Rolled-in Pricing

BILLING COMMENCEMENT

The Federal Energy Regulatory Commission (FERC) has approved an Alaska system transportation tariff. The tariff covers the costs of constructing, maintaining and operating the Alaska segment of the ANGTS pipeline. These costs cannot be included in consumer billing until the entire ANGTS is completed and commissioned as being capable of delivering gas. The risk inherent in this tariff structure is the possibility that the Alaska segment could be completed prior to the Canadian segment. Thus, debt service would commence prior to any revenue generation from the delivery and sale of gas. The proposed waiver would "divide the Alaska facilities for billing commencement into limited and logically defined sections consistent with sound construction practices." The effect of this waiver would be to allow transportation and delivery companies (the project sponsors) to commence billing for the costs incurred as each section is completed even though gas deliveries may not have commenced. At this time, there has been no exact definition of the number or size of the "limited and logically defined sections." This waiver would shift a portion of the risk of noncompletion away from the sponsors and onto consumers. The spreading out of the debt service responsibility reduces the uncertainty faced by private financiers with respect to repayment of the debt. However, it could lead to increased marketability risk. A September 3, 1981, article in the Anchorage Daily News states that the California Public Utilities Commission may ban Alaska gas sales if consumers are saddled ". . . with the prime risk of financing a trans-Canada pipeline." Furthermore, both California and Colorado have stated before the U.S. House Energy Committee that they will not purchase Alaska gas if the consumers are burdened with the noncompletion risk. The warnings are direct reactions to potential precompletion billing commencement. Furthermore, of all the waiver requests, precompletion billing may well face the largest opposition in the U.S. Congress.

PRODUCER EQUITY

Under the 1977 decision, Prudhoe Bay gas producers (Exxon, Arco and Sohio) are restricted from holding any equity in the pipeline. This restriction was primarily due to antitrust considerations. It was argued that producer control of both the source and the delivery system could potentially lead to restricted accessibility to the gas. According to the waiver request, "the producer equity interest will be less than 50 percent, initially and throughout the life of the project," and "producers will not be allowed to limit access to the transportation system, nor restrict expansion." Equity participation by the producers would reduce the financial burden of the transportation companies and suggests increased likelihood of project completion because of the dual interest which would exist for the producers.

CONDITIONING PLANT

The initial FERC decision—since stayed at the request of former Energy Secretary Duncan—separated the conditioning plant from the pipeline system and made it the sole responsibility of the gas producers. The producers have opposed this restriction. They felt that the conditioning costs should be an element of transportation costs and be reflected in the tariff. The separation of the conditioning plant from the pipeline effectively provided for partial pipeline system financing by the producers with no pipeline ownership accruing to them.

REGULATORY CONSISTENCY

This request states that nonappealable orders issued by the FERC "must not be altered during the life of the project in any manner that would impair service of debt." This waiver would reduce long-term risk to the financial community by "freezing" the regulations over the project life. This provides regulatory certainty which implies reduced risk.

REGULATORY REFORM TO ACHIEVE EXPEDITION

This request would stimulate the regulatory process to produce an adequate record while providing that "all required approvals are final and nonappealable by February 1, 1982." This date is important because of the limited shipping season for Prudhoe Bay. The construction of conditioning plant modules must be completed in a timely manner to make the summer shipping season. If the financing has not been settled by early 1982 there will not be sufficient time for materials purchases and construction to make the shipping season. This would result in further delays.

ROLLED-IN PRICING

Rolling-in the price of relatively high cost supplemental gas (Alaska gas is supplemental) with that of conventional gas means that the price paid by the consumer will be an average of the cost of all sources contained in the supply purchased. Rolled-in pricing is an alternative to incremental pricing. Under an incremental pricing scheme the actual cost of the last unit (the incremental or marginal unit) is paid by the consumer. Since supplemental gas is relatively costly by its very nature, an incremental pricing structure would tend to price Prudhoe Bay gas out of the market—estimates of the cost of gas transported through the ANGTS generally exceed $10 per thousand cubic feet (mcf) while lower-48 gas is presently selling in the $2.00 per mcf range. Hence, the effect of the rolled-in pricing requirement would be to reduce marketability risk.

A final issue, not addressed in the waiver package, which adds to the uncertainty surrounding the ANGTS, is natural gas decontrol. Decontrol would remove present ceilings and allow the price of gas to move to a market determined level. These price increases would stimulate exploration and lead to increased supplies of gas from conventional sources. Since conventional gas is less expensive to bring to the consumer than supplemental gas, decontrol could reduce the marketability of supplemental gas supplies. As Alaska North Slope gas is supplemental gas, decontrol could increase the marketability risk of Alaska natural gas. The extent of this risk remains an unanswered question.

Although other issues have been involved in the construction delay, the issue of project financing has existed from the inception and has outlasted all other difficulties. The waiver requests discussed in this article are designed to reduce the perceived riskiness of the ANGTS pipeline, and the passage of the waiver package could facilitate private financing. However, at this writing there is still substantial lack of agreement within Congress as to what waivers of law are acceptable.

APPENDIX

Historical employment and income data published in the following tables have been updated to correspond with revisions released by the Alaska Department of Labor, and by the U.S. Department of Commerce, Bureau of Economic Analysis.

CONTROL1081

TABLE I
STATE OF ALASKA
POPULATION, LABOR FORCE, AND EMPLOYMENT

POPULATION AND LABOR FORCE (THOUSANDS)

	1978:1	1978:2	1978:3	1978:4	ANNUAL AVG. 1978	1979:1	1979:2	1979:3	1979:4	ANNUAL AVG. 1979
POPULATION (TRENDED)	410.7	410.8	411.2	410.3	410.8	408.1	406.4	406.2	404.2	406.2
LABOR FORCE (CPS BASIS)	171.9	185.7	186.8	179.6	181.0	171.1	183.7	190.3	178.9	181.0
EMPLOYMENT (CPS BASIS)	150.9	164.1	168.7	160.4	161.0	151.6	165.9	176.0	162.5	164.0
UNEMPLOYMENT (CPS BASIS)	21.1	21.6	18.1	19.2	20.0	19.5	17.8	14.4	16.4	17.0
UNEMPLOYMENT RATE (PERCENT, CPS BASIS)	12.3	11.6	9.7	10.7	11.1	11.4	9.7	7.5	9.2	9.4

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT

MINING	5,380	5,782	5,698	5,390	5,563	5,642	5,903	5,919	5,626	5,773
CONTRACT CONSTRUCTION	10,226	12,572	14,817	11,345	12,240	7,461	9,846	12,806	10,253	10,092
MANUFACTURING	8,325	11,922	16,091	9,587	11,481	7,800	13,139	18,821	11,511	12,818
LOGGING AND SAWMILLS	903	2,024	2,151	1,656	1,684	971	2,034	2,687	2,257	1,987
PAPER AND PULP PRODUCTS	1,168	1,197	1,190	750	1,076	1,066	1,248	1,033	1,017	1,091
MISC. FOOD AND KINDRED PRODUCTS	3,681	5,862	9,584	4,350	5,869	3,317	6,840	11,736	5,223	6,779
OTHER MANUFACTURING	2,573	2,839	3,166	2,831	2,852	2,446	3,017	3,365	3,014	2,961
TRANS., COMM., AND PUBLIC UTILS.	15,507	16,542	17,521	15,945	16,379	15,609	16,726	17,831	16,650	16,704
TRUCKING	2,050	2,147	2,257	1,879	2,083	1,813	1,761	1,799	1,648	1,755
WATER TRANSPORTATION	830	1,376	1,359	1,109	1,169	916	1,292	1,477	1,255	1,235
AIR TRANSPORTATION	4,228	4,431	4,871	4,565	4,524	4,475	5,041	5,475	5,008	5,000
OTHER TRANSPORTATION	3,227	3,067	3,375	2,913	3,146	2,812	2,987	3,347	3,065	3,053
COMMUNICATIONS	3,905	4,028	4,163	4,112	4,052	4,214	4,224	4,289	4,301	4,257
PUBLIC UTILITIES	1,267	1,493	1,496	1,367	1,406	1,379	1,421	1,444	1,373	1,404
WHOLESALE TRADE	5,531	5,743	5,988	5,621	5,721	5,289	5,679	5,735	5,340	5,511
RETAIL TRADE	21,638	23,197	24,161	23,431	23,107	22,879	24,098	24,901	24,030	23,977
FINANCE, INSURANCE, AND REAL ESTATE	8,442	7,966	8,341	8,163	8,228	8,093	8,208	8,021	7,819	8,035
SERVICES	25,805	27,778	29,540	27,299	27,606	27,558	28,658	29,807	26,982	28,251
GOVERNMENT	51,761	53,061	49,427	55,085	52,334	54,886	55,814	50,828	56,603	54,533
FEDERAL	17,501	18,055	18,720	18,396	18,168	17,516	17,816	18,641	17,688	17,915
STATE	13,842	14,275	14,440	14,829	14,347	14,652	15,041	15,059	15,155	14,977
LOCAL	20,418	20,731	16,267	21,860	19,819	22,718	22,957	17,128	23,760	21,641
MISCELLANEOUS EMPLOYMENT	515	493	967	159	534	478	920	975	1,052	856
TOTAL	153,130	165,056	172,551	162,025	163,191	155,695	168,991	175,644	165,866	166,549

FORECAST PERIODS ARE: POPULATION (1980:3 TO 1983:4)
LABOR FORCE (1981:1 TO 1983:4)
NONAGRICULTURAL EMPLOYMENT (1980:4 TO 1983:4)

NOTE: PAPER AND PULP EMPLOYMENT FOR 1978:4, 1979:1 IS ESTIMATED.

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TABLE I
STATE OF ALASKA
POPULATION, LABOR FORCE, AND EMPLOYMENT

POPULATION AND LABOR FORCE (THOUSANDS)

	1980:1	1980:2	1980:3	1980:4	ANNUAL AVG. 1980	1981:1	1981:2	1981:3	1981:4	ANNUAL AVG. 1981
POPULATION (TRENDED)	402.3	400.5	403.0	404.9	402.7	409.0	412.7	416.0	419.8	414.4
LABOR FORCE (CPS BASIS)	173.5	191.3	197.1	186.1	187.0	186.9	200.7	202.5	198.3	197.1
EMPLOYMENT (CPS BASIS)	154.7	171.7	180.7	169.0	169.0	166.4	180.2	186.0	180.2	178.2
UNEMPLOYMENT (CPS BASIS)	18.8	19.6	16.4	17.2	18.0	20.5	20.5	16.5	18.1	18.9
UNEMPLOYMENT RATE (PERCENT, CPS BASIS)	10.8	10.3	8.3	9.2	9.7	11.0	10.2	8.2	9.1	9.6
NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT										
MINING	5,957	6,440	6,879	6,814	6,523	7,544	8,067	8,953	8,337	8,225
CONTRACT CONSTRUCTION	7,311	10,474	14,044	10,868	10,674	9,339	14,092	16,312	12,921	13,166
MANUFACTURING	9,767	14,331	20,404	11,870	14,093	9,060	13,575	18,951	11,555	13,285
LOGGING AND SAWMILLS	1,694	2,769	2,806	2,096	2,341	1,619	1,867	2,007	1,548	1,760
PAPER AND PULP PRODUCTS	1,033	1,025	1,086	1,047	1,048	980	1,088	1,107	987	1,040
MISC. FOOD AND KINDRED PRODUCTS	4,172	7,376	12,961	5,825	7,584	3,613	7,481	12,504	5,945	7,386
OTHER MANUFACTURING	2,868	3,161	3,551	2,902	3,121	2,848	3,139	3,333	3,075	3,099
TRANS., COMM., AND PUBLIC UTILS.	16,056	17,320	18,271	17,263	17,228	16,417	17,788	19,349	18,261	17,954
TRUCKING	1,713	1,901	2,019	1,906	1,885	1,980	2,256	2,323	2,139	2,175
WATER TRANSPORTATION	1,110	1,478	1,596	1,300	1,371	1,076	1,336	1,661	1,427	1,375
AIR TRANSPORTATION	4,914	5,313	5,555	5,247	5,257	4,982	5,426	5,677	5,572	5,414
OTHER TRANSPORTATION	2,747	2,877	3,231	3,123	2,995	2,747	2,777	3,533	3,189	3,061
COMMUNICATIONS	4,246	4,401	4,461	4,296	4,351	4,245	4,533	4,601	4,401	4,445
PUBLIC UTILITIES	1,326	1,350	1,409	1,391	1,369	1,387	1,461	1,553	1,533	1,484
WHOLESALE TRADE	5,163	5,482	5,768	5,515	5,482	5,295	5,736	5,931	5,693	5,664
RETAIL TRADE	21,767	23,719	25,635	25,154	24,069	23,752	25,742	26,975	26,258	25,682
FINANCE, INSURANCE, AND REAL ESTATE	7,665	7,731	7,939	7,791	7,782	7,658	7,850	8,304	8,205	8,004
SERVICES	27,715	30,263	31,389	29,311	29,670	29,127	31,130	32,115	31,145	30,879
GOVERNMENT	53,890	54,938	50,506	54,848	53,546	55,317	56,372	52,146	56,515	55,088
FEDERAL	16,871	18,372	18,596	17,973	17,953	17,671	18,325	18,765	18,441	18,300
STATE	15,032	15,078	15,202	15,256	15,142	15,605	15,667	16,205	15,848	15,831
LOCAL	21,987	21,488	16,708	21,619	20,451	22,041	22,380	17,176	22,227	20,956
MISCELLANEOUS EMPLOYMENT	613	896	755	520	696	394	630	921	527	618
TOTAL	155,904	171,594	181,590	169,954	169,761	163,903	180,981	189,957	179,417	178,565

FORECAST PERIODS ARE: POPULATION (1980:3 TO 1983:4)
LABOR FORCE (1981:1 TO 1983:4)
NONAGRICULTURAL EMPLOYMENT (1980:4 TO 1983:4)

SEE 'CONTROL FORECAST' DISCUSSION IN THIS REPORT REGARDING ESTIMATION PROCEDURE USED FOR 1980:4, 1981:1 NONAGRICULTURAL EMPLOYMENT.

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TABLE I
STATE OF ALASKA
POPULATION, LABOR FORCE, AND EMPLOYMENT

POPULATION AND LABOR FORCE (THOUSANDS)

	1982:1	1982:2	1982:3	1982:4	ANNUAL AVG. 1982	1983:1	1983:2	1983:3	1983:4	ANNUAL AVG. 1983
POPULATION (TRENDED)	423.8	427.2	430.9	434.1	429.0	436.6	439.4	442.4	445.3	440.9
LABOR FORCE (CPS BASIS)	198.0	209.5	211.4	206.2	206.3	203.2	215.4	217.8	212.4	212.2
EMPLOYMENT (CPS BASIS)	176.7	188.2	194.3	187.5	186.7	181.6	193.7	200.2	193.3	192.2
UNEMPLOYMENT (CPS BASIS)	21.3	21.3	17.1	18.7	19.6	21.6	21.7	17.5	19.1	20.0
UNEMPLOYMENT RATE (PERCENT, CPS BASIS)	10.7	10.2	8.1	9.1	9.5	10.6	10.1	8.0	9.0	9.4

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT

MINING	8,359	8,800	9,470	8,710	8,835	8,688	9,123	9,773	9,044	9,157
CONTRACT CONSTRUCTION	11,402	14,651	17,415	13,730	14,299	10,949	15,297	17,632	14,246	14,531
MANUFACTURING	10,095	14,712	20,369	12,673	14,462	10,814	15,560	21,456	13,259	15,272
LOGGING AND SAWMILLS	1,191	1,972	2,234	1,765	1,790	1,472	2,526	2,760	2,156	2,228
PAPER AND PULP PRODUCTS	1,077	1,368	1,429	1,284	1,290	1,294	1,414	1,425	1,265	1,350
MISC. FOOD AND KINDRED PRODUCTS	4,933	8,088	13,217	6,409	8,162	5,029	8,196	13,637	6,492	8,338
OTHER MANUFACTURING	2,894	3,284	3,488	3,215	3,221	3,020	3,424	3,633	3,347	3,356
TRANS., COMM., AND PUBLIC UTILS.	17,372	18,477	20,224	19,044	18,779	17,982	19,136	20,934	19,734	19,447
TRUCKING	2,282	2,421	2,553	2,310	2,391	2,317	2,493	2,616	2,388	2,454
WATER TRANSPORTATION	1,137	1,388	1,727	1,481	1,433	1,176	1,436	1,782	1,522	1,479
AIR TRANSPORTATION	5,215	5,647	5,908	5,799	5,642	5,428	5,876	6,149	6,035	5,872
OTHER TRANSPORTATION	2,871	2,832	3,661	3,290	3,164	2,963	2,891	3,753	3,376	3,246
COMMUNICATIONS	4,328	4,554	4,672	4,506	4,515	4,453	4,705	4,839	4,673	4,668
PUBLIC UTILITIES	1,539	1,635	1,704	1,658	1,634	1,645	1,735	1,796	1,739	1,729
WHOLESALE TRADE	5,895	6,166	6,458	6,149	6,167	6,101	6,376	6,670	6,362	6,377
RETAIL TRADE	25,390	26,830	28,042	27,340	26,900	26,383	27,870	29,097	28,340	27,923
FINANCE, INSURANCE, AND REAL ESTATE	8,221	8,435	8,955	8,881	8,623	8,915	9,166	9,753	9,688	9,381
SERVICES	30,355	32,042	33,181	32,136	31,928	31,548	33,377	34,558	33,509	33,248
GOVERNMENT	56,507	58,671	54,107	58,276	56,890	58,399	60,069	55,736	60,052	58,564
FEDERAL	18,018	18,416	18,766	18,490	18,423	18,113	18,562	18,965	18,686	18,582
STATE	15,548	16,263	17,191	16,491	16,373	16,180	16,923	17,889	17,161	17,038
LOCAL	22,941	23,992	18,150	23,295	22,094	24,106	24,584	18,881	24,205	22,944
MISCELLANEOUS EMPLOYMENT	402	643	1,095	537	669	415	663	1,128	553	690
TOTAL	173,996	189,427	199,315	187,476	187,553	180,195	196,638	206,737	194,788	194,590

FORECAST PERIODS ARE: POPULATION (1980:3 TO 1983:4)
LABOR FORCE (1981:1 TO 1983:4)
NONAGRICULTURAL EMPLOYMENT (1980:4 TO 1983:4)

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TABLE II
STATE OF ALASKA
INCOME, PRICES, AND WAGES

INCOME (BILLIONS OF DOLLARS, SEASONALLY ADJUSTED, ANNUAL RATE)

	1978:1	1978:2	1978:3	1978:4	ANNUAL AVG. 1978	1979:1	1979:2	1979:3	1979:4	ANNUAL AVG. 1979
WAGES AND SALARIES	3.676	3.598	3.571	3.692	3.634	3.718	3.674	3.761	3.904	3.764
PLUS: OTHER LABOR INCOME	0.296	0.293	0.302	0.307	0.300	0.309	0.322	0.342	0.358	0.333
PLUS: PROPRIETORS' INCOME	0.232	0.231	0.238	0.247	0.237	0.245	0.245	0.263	0.274	0.257
PLUS: PROPERTY INCOME	0.308	0.306	0.310	0.318	0.311	0.334	0.350	0.366	0.388	0.360
PLUS: TRANSFER PAYMENTS	0.350	0.353	0.389	0.375	0.367	0.345	0.358	0.391	0.375	0.367
PLUS: RESIDENCE ADJUSTMENT	-0.319	-0.307	-0.308	-0.307	-0.310	-0.282	-0.282	-0.295	-0.305	-0.291
LESS: EMPLOYEE CONTRIBUTIONS SOC INS	0.228	0.221	0.225	0.229	0.226	0.249	0.250	0.262	0.272	0.258
EQUALS: PERSONAL INCOME, RESIDENCE BASIS	4.315	4.253	4.277	4.403	4.312	4.420	4.417	4.566	4.722	4.531

CONSUMER PRICE INDICES-ANCHORAGE (1967=1.000)

APPAREL AND UPKEEP	1.546	1.581	1.594	1.612	1.583	1.578	1.579	1.642	1.689	1.622
FOOD AND BEVERAGES	2.115	2.211	2.248	2.294	2.217	2.385	2.425	2.485	2.519	2.453
ENTERTAINMENT	1.838	1.874	1.885	1.902	1.874	1.903	1.896	1.927	1.973	1.925
HOUSING	1.762	1.791	1.882	1.931	1.841	1.982	2.027	2.093	2.131	2.058
TRANSPORTATION	1.687	1.750	1.792	1.822	1.763	1.844	1.906	1.995	2.052	1.949
MEDICAL CARE	2.237	2.248	2.310	2.352	2.287	2.442	2.491	2.499	2.535	2.492
OTHER GOODS AND SERVICES	1.758	1.790	1.825	1.855	1.807	1.884	1.917	1.952	1.995	1.937
ALL ITEMS	1.800	1.843	1.909	1.950	1.875	1.996	2.037	2.103	2.144	2.070

AVERAGE HOURLY EARNINGS (DOLLARS, SEASONALLY ADJUSTED)

MINING	15.15	14.79	14.60	15.67	15.05	16.68	17.39	17.74	18.86	17.67
CONTRACT CONSTRUCTION	18.28	18.12	17.84	18.66	18.22	18.67	18.73	18.93	18.62	18.74
MANUFACTURING (AEIRS DEFINITION)	10.91	10.91	11.03	11.58	11.11	11.99	11.67	11.51	12.47	11.91
WHOLESALE TRADE	8.38	8.68	8.98	9.06	8.78	9.28	9.57	9.83	9.78	9.62
RETAIL TRADE*	7.05	7.36	7.05	7.56	7.26	7.39	7.51	7.68	7.73	7.58

FORECAST PERIODS ARE: INCOME (1981:2 TO 1983:4)
PRICES (1981:3 TO 1983:4)
EARNINGS (1981:2 TO 1983:4)

*EXCEPT EATING AND DRINKING PLACES
WAGES AND SALARIES INCLUDES MILITARY.

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TABLE II
STATE OF ALASKA
INCOME, PRICES, AND WAGES

INCOME (BILLIONS OF DOLLARS, SEASONALLY ADJUSTED, ANNUAL RATE)

	1980:1	1980:2	1980:3	1980:4	ANNUAL AVG. 1980	1981:1	1981:2	1981:3	1981:4	ANNUAL AVG. 1981
WAGES AND SALARIES	3.981	3.875	4.051	4.319	4.057	4.452	4.708	4.809	4.940	4.727
PLUS: OTHER LABOR INCOME	0.369	0.378	0.402	0.416	0.391	0.428	0.419	0.416	0.418	0.420
PLUS: PROPRIETORS' INCOME	0.276	0.258	0.276	0.297	0.277	0.304	0.321	0.333	0.344	0.325
PLUS: PROPERTY INCOME	0.414	0.439	0.455	0.470	0.445	0.503	0.526	0.553	0.580	0.540
PLUS: TRANSFER PAYMENTS	0.383	0.392	0.646	0.667	0.522	0.458	0.789	0.517	0.518	0.571
PLUS: RESIDENCE ADJUSTMENT	-0.312	-0.307	-0.324	-0.342	-0.321	-0.351	-0.340	-0.346	-0.362	-0.349
LESS: EMPLOYEE CONTRIBUTIONS SOC INS	0.286	0.279	0.294	0.309	0.292	0.345	0.330	0.335	0.348	0.339
EQUALS: PERSONAL INCOME, RESIDENCE BASIS	4.825	4.756	5.212	5.518	5.078	5.449	6.093	5.947	6.090	5.895

CONSUMER PRICE INDICES-ANCHORAGE (1967=1.000)

APPAREL AND UPKEEP	1.690	1.759	1.825	1.850	1.781	1.857	1.872	1.901	1.929	1.890
FOOD AND BEVERAGES	2.542	2.588	2.641	2.706	2.619	2.708	2.723	2.778	2.861	2.768
ENTERTAINMENT	2.018	2.073	2.014	2.054	2.040	2.097	2.188	2.182	2.225	2.173
HOUSING	2.203	2.252	2.274	2.342	2.268	2.395	2.415	2.515	2.575	2.475
TRANSPORTATION	2.140	2.210	2.272	2.362	2.246	2.423	2.513	2.511	2.536	2.496
MEDICAL CARE	2.717	2.842	2.884	2.923	2.841	3.016	3.130	3.163	3.238	3.137
OTHER GOODS AND SERVICES	2.034	2.080	2.117	2.145	2.094	2.169	2.204	2.277	2.322	2.243
ALL ITEMS	2.209	2.263	2.297	2.362	2.282	2.406	2.443	2.518	2.573	2.485

AVERAGE HOURLY EARNINGS (DOLLARS, SEASONALLY ADJUSTED)

MINING	18.74	18.89	18.50	17.36	18.37	19.60	20.00	20.72	21.28	20.40
CONTRACT CONSTRUCTION	19.03	19.49	20.87	21.55	20.23	20.49	21.35	21.41	21.33	21.14
MANUFACTURING (AEIRS DEFINITION)	12.48	12.43	12.38	13.29	12.64	13.88	13.63	13.87	14.21	13.90
WHOLESALE TRADE	9.71	10.63	11.41	11.87	10.91	11.44	11.75	11.97	11.99	11.79
RETAIL TRADE*	8.07	8.08	8.24	8.44	8.21	8.82	8.99	9.12	9.40	9.08

FORECAST PERIODS ARE: INCOME (1981:2 TO 1983:4)
PRICES (1981:3 TO 1983:4)
EARNINGS (1981:2 TO 1983:4)

*EXCEPT EATING AND DRINKING PLACES
TRANSFER PAYMENTS AND TOTAL PERSONAL INCOME FOR 1980:3 AND 1980:4
DIFFER FROM OFFICIAL ESTIMATES BY INCLUSION OF 1979 STATE
PERSONAL INCOME TAX REBATES.
WAGES AND SALARIES INCLUDES MILITARY.

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TABLE II
STATE OF ALASKA
INCOME, PRICES, AND WAGES

INCOME (BILLIONS OF DOLLARS, SEASONALLY ADJUSTED, ANNUAL RATE)

	1982:1	1982:2	1982:3	1982:4	ANNUAL AVG. 1982	1983:1	1983:2	1983:3	1983:4	ANNUAL AVG. 1983
WAGES AND SALARIES	5.250	5.386	5.507	5.608	5.438	5.895	6.112	6.230	6.356	6.148
PLUS: OTHER LABOR INCOME	0.427	0.437	0.446	0.455	0.441	0.469	0.483	0.496	0.507	0.489
PLUS: PROPRIETORS' INCOME	0.353	0.361	0.371	0.384	0.367	0.394	0.403	0.414	0.428	0.410
PLUS: PROPERTY INCOME	0.608	0.636	0.668	0.700	0.653	0.730	0.761	0.792	0.823	0.777
PLUS: TRANSFER PAYMENTS	0.508	0.891	0.730	0.742	0.718	0.792	0.813	0.859	0.870	0.834
PLUS: RESIDENCE ADJUSTMENT	-0.401	-0.414	-0.421	-0.436	-0.418	-0.483	-0.557	-0.579	-0.602	-0.555
LESS: EMPLOYEE CONTRIBUTIONS SOC INS	0.365	0.398	0.396	0.405	0.391	0.418	0.460	0.456	0.468	0.451
EQUALS: PERSONAL INCOME, RESIDENCE BASIS	6.380	6.899	6.907	7.047	6.809	7.379	7.555	7.755	7.915	7.651

CONSUMER PRICE INDICES-ANCHORAGE (1967=1.000)

APPAREL AND UPKEEP	1.956	1.983	2.008	2.036	1.996	2.064	2.091	2.117	2.143	2.104
FOOD AND BEVERAGES	2.932	2.986	3.031	3.085	3.009	3.154	3.214	3.268	3.320	3.239
ENTERTAINMENT	2.261	2.297	2.334	2.371	2.316	2.404	2.438	2.472	2.507	2.455
HOUSING	2.637	2.700	2.765	2.831	2.733	2.899	2.969	3.040	3.113	3.005
TRANSPORTATION	2.588	2.641	2.697	2.753	2.670	2.805	2.856	2.906	2.956	2.881
MEDICAL CARE	3.316	3.396	3.477	3.561	3.437	3.646	3.734	3.823	3.915	3.779
OTHER GOODS AND SERVICES	2.369	2.416	2.464	2.514	2.441	2.564	2.615	2.667	2.721	2.642
ALL ITEMS	2.632	2.689	2.746	2.806	2.718	2.868	2.929	2.991	3.053	2.960

AVERAGE HOURLY EARNINGS (DOLLARS, SEASONALLY ADJUSTED)

MINING	21.88	22.46	23.06	23.67	22.77	24.32	24.96	25.61	26.27	25.29
CONTRACT CONSTRUCTION	22.88	23.80	23.61	23.58	23.47	25.55	27.00	26.77	26.97	26.57
MANUFACTURING (AEIRS DEFINITION)	14.79	14.73	14.91	15.30	14.93	16.14	16.09	16.22	16.68	16.28
WHOLESALE TRADE	11.96	12.27	12.61	12.55	12.35	12.50	12.75	12.97	12.89	12.78
RETAIL TRADE*	9.61	9.83	10.04	10.26	9.94	10.48	10.71	10.94	11.17	10.82

FORECAST PERIODS ARE: INCOME (1981:2 TO 1983:4)
PRICES (1981:3 TO 1983:4)
EARNINGS (1981:2 TO 1983:4)

*EXCEPT EATING AND DRINKING PLACES
WAGES AND SALARIES INCLUDES MILITARY.

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TABLE III
STATE OF ALASKA
SELECTED FINANCIAL BALANCES AND FLOWS
(MILLIONS OF DOLLARS)

COMMERCIAL AND MUTUAL SAVINGS BANKS

	1978:1	1978:2	1978:3	1978:4	ANNUAL AVG. 1978	1979:1	1979:2	1979:3	1979:4	ANNUAL AVG. 1979
CASH AND DUE FROM BANKS	213.7	248.3	275.0	249.8	246.7	228.7	228.0	272.4	248.5	244.4
SECURITIES	437.3	465.2	508.9	514.0	481.4	500.1	581.6	694.5	654.7	607.7
LOANS AND DISCOUNTS	1,170.3	1,244.3	1,286.0	1,242.2	1,235.7	1,222.7	1,266.0	1,262.2	1,210.1	1,240.2
OTHER ASSETS	130.3	131.8	128.0	127.0	129.3	130.1	134.7	136.5	135.2	134.1
TOTAL ASSETS	1,951.5	2,089.7	2,198.0	2,133.1	2,093.1	2,081.6	2,210.2	2,365.7	2,248.4	2,226.5
DEMAND DEPOSITS	666.8	733.6	788.5	709.3	724.5	666.2	707.5	762.3	684.1	705.0
TIME DEPOSITS	973.2	1,017.5	1,069.6	1,038.0	1,024.6	1,022.2	1,083.6	1,134.6	1,116.1	1,089.2
OTHER LIABILITIES AND CAPITAL	311.6	338.6	339.9	385.8	344.0	393.2	419.1	468.8	448.1	432.3

SAVINGS AND LOAN ASSOCIATIONS

DEPOSITS, BEGINNING OF QUARTER	216.6	216.3	212.4	219.9	216.3	212.9	211.4	228.3	230.2	220.7
HOLDINGS OF JUMBO CD'S*	42.5	46.2	37.0	44.4	42.5	37.8	38.2	54.7	60.8	47.9
NEW SAVINGS LESS WITHDRAWALS	-8.4	1.6	3.5	-11.3	-3.7	-2.2	8.3	-2.0	3.4	1.9
CHANGE IN MORTGAGE PORTFOLIOS	-1.8	14.0	-5.6	-2.6	1.0	-4.8	4.6	-2.2	-11.6	-3.5
NEW LENDING	16.4	33.6	28.6	26.5	26.3	15.4	22.6	17.5	12.1	16.9
MORTGAGE RATE (%)-SEATTLE	9.5	9.7	10.0	10.2	9.8	10.6	10.7	11.1	11.4	10.9

THE FORECAST PERIOD IS 1981:3 TO 1983:4
*CERTIFICATES OF $100,000 OR MORE

CONTROL1081

TABLE III
STATE OF ALASKA
SELECTED FINANCIAL BALANCES AND FLOWS
(MILLIONS OF DOLLARS)

COMMERCIAL AND MUTUAL SAVINGS BANKS

	1980:1	1980:2	1980:3	1980:4	ANNUAL AVG. 1980	1981:1	1981:2	1981:3	1981:4	ANNUAL AVG. 1981
CASH AND DUE FROM BANKS	274.2	339.6	401.7	353.8	342.3	429.1	398.9	365.9	359.6	388.4
SECURITIES	640.4	733.9	860.6	871.4	776.6	851.5	870.0	1,027.9	922.6	918.0
LOANS AND DISCOUNTS	1,159.2	1,110.5	1,174.0	1,143.0	1,146.7	1,143.7	1,177.7	1,266.2	1,349.5	1,234.3
OTHER ASSETS	141.9	147.5	152.2	171.6	153.3	176.2	182.4	150.0	159.3	167.0
TOTAL ASSETS	2,215.8	2,331.5	2,588.5	2,539.8	2,418.9	2,600.5	2,628.9	2,807.9	2,787.9	2,706.3
DEMAND DEPOSITS	638.5	780.1	892.0	785.9	774.1	802.2	839.1	982.9	926.8	887.8
TIME DEPOSITS	1,109.8	1,082.2	1,210.4	1,229.9	1,158.1	1,283.1	1,225.9	1,307.4	1,307.9	1,281.1
OTHER LIABILITIES AND CAPITAL	467.5	469.2	486.1	524.0	486.7	515.2	563.9	517.6	553.1	537.5

SAVINGS AND LOAN ASSOCIATIONS

DEPOSITS,BEGINNING OF QUARTER	232.6	235.7	286.2	333.7	272.0	317.9	353.9	358.7	364.5	348.7
HOLDINGS OF JUMBO CD'S*	70.4	76.0	120.5	157.8	106.2	137.8	180.1	183.9	187.8	172.4
NEW SAVINGS LESS WITHDRAWALS	-7.4	50.8	7.7	19.3	17.6	15.4	30.6	-6.4	-8.9	7.7
CHANGE IN MORTGAGE PORTFOLIOS	-1.8	5.3	14.8	-27.2	-2.2	-17.1	4.2	11.1	6.6	1.2
NEW LENDING	6.6	22.2	20.3	26.6	18.9	22.5	43.4	43.4	45.1	38.6
MORTGAGE RATE (%)-SEATTLE	12.0	13.7	12.4	13.4	12.9	13.7	14.6	14.1	13.4	14.0

THE FORECAST PERIOD IS 1981:3 TO 1983:4
*CERTIFICATES OF $100,000 OR MORE

CONTROL1081

TABLE III
STATE OF ALASKA
SELECTED FINANCIAL BALANCES AND FLOWS
(MILLIONS OF DOLLARS)

COMMERCIAL AND MUTUAL SAVINGS BANKS

	1982:1	1982:2	1982:3	1982:4	ANNUAL AVG. 1982	1983:1	1983:2	1983:3	1983:4	ANNUAL AVG. 1983
CASH AND DUE FROM BANKS	359.5	390.1	445.5	430.4	406.4	424.3	457.9	524.1	510.5	479.2
SECURITIES	874.7	927.1	961.5	922.7	921.5	895.3	953.8	1,066.6	1,010.9	981.6
LOANS AND DISCOUNTS	1,445.4	1,600.4	1,721.6	1,724.9	1,623.1	1,772.9	1,947.1	2,047.5	2,065.1	1,958.1
OTHER ASSETS	186.0	190.2	178.4	178.7	183.3	203.3	209.3	201.0	201.6	203.8
TOTAL ASSETS	2,867.7	3,109.8	3,310.3	3,260.5	3,137.1	3,299.7	3,573.1	3,845.6	3,794.7	3,628.3
DEMAND DEPOSITS	931.1	1,066.5	1,164.0	1,099.0	1,065.1	1,094.1	1,245.5	1,352.4	1,271.0	1,240.8
TIME DEPOSITS	1,347.0	1,394.1	1,474.2	1,495.1	1,427.6	1,532.5	1,606.5	1,761.5	1,782.1	1,670.7
OTHER LIABILITIES AND CAPITAL	589.7	649.2	672.1	666.5	644.4	673.1	721.1	731.8	741.6	716.9

SAVINGS AND LOAN ASSOCIATIONS

DEPOSITS,BEGINNING OF QUARTER	358.9	353.9	349.8	346.4	352.2	343.9	342.8	343.2	345.0	343.7
HOLDINGS OF JUMBO CD'S*	180.3	173.1	166.1	159.5	169.7	153.1	147.0	141.1	135.5	144.2
NEW SAVINGS LESS WITHDRAWALS	-8.2	-7.4	-6.9	-5.9	-7.1	-4.6	-3.2	-2.0	-0.9	-2.7
CHANGE IN MORTGAGE PORTFOLIOS	-3.2	8.5	6.3	3.7	3.8	-8.8	11.8	- 12.2	2.8	4.5
NEW LENDING	27.4	55.8	51.0	45.7	45.0	25.9	52.4	50.3	48.1	44.2
MORTGAGE RATE (%)-SEATTLE	13.5	13.6	13.7	13.5	13.6	13.4	13.1	12.8	12.1	12.8

THE FORECAST PERIOD IS 1981:3 TO 1983:4
*CERTIFICATES OF $100,000 OR MORE

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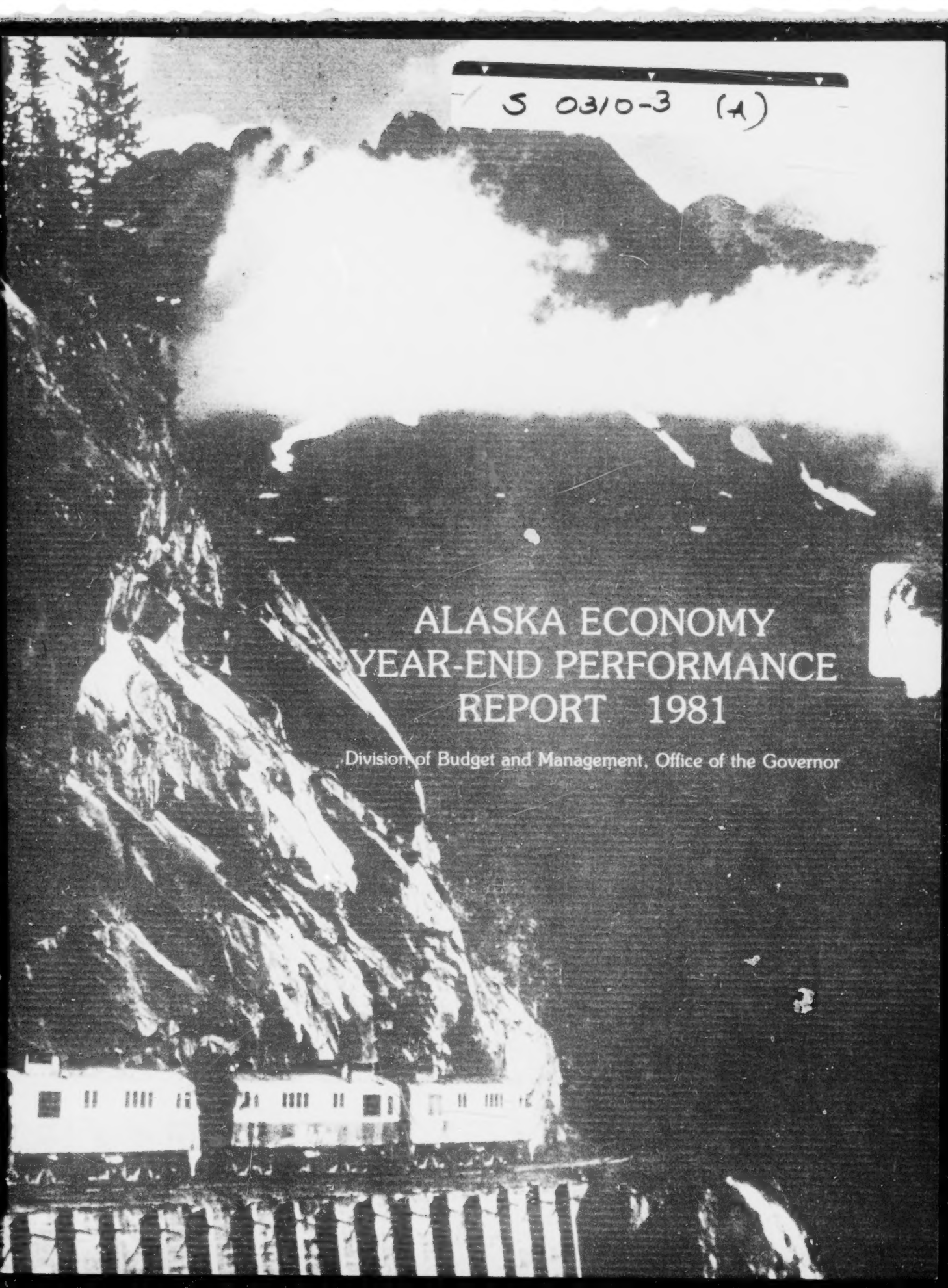
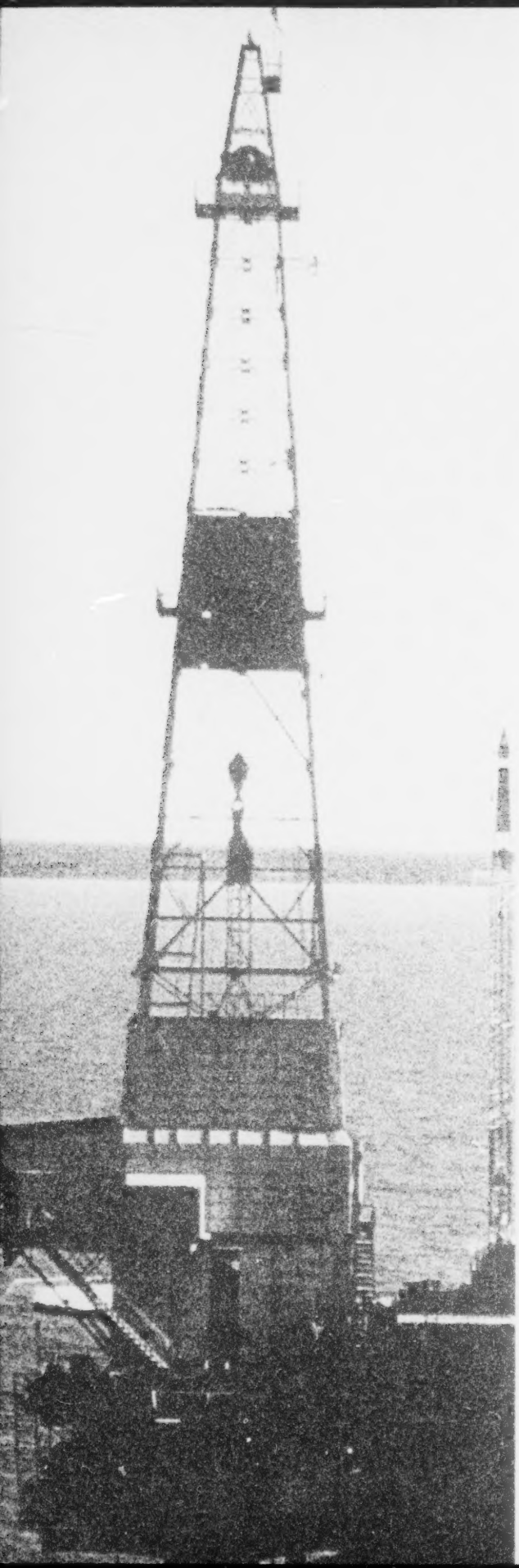


ALASKA ECONOMY YEAR-END PERFORMANCE REPORT 1981

Division of Budget and Management, Office of the Governor



THE PERFORMANCE REPORT OF THE ALASKA ECONOMY IN 1981

Prepared By:
State of Alaska
Division of Budget & Management
Office of the Governor

Governor
Jay S. Hammond

Director
Ronald D. Lehr

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ALASKA'S ECONOMY 1981

Overview

This report continues a tradition of annual performance reports on the Alaskan economy. Prior to transfer of this function to the Division of Budget & Management, these reports were prepared by the Department of Commerce, Division of Economic Enterprise. In earlier years, the performance report was combined with a statistical abstract. Two years ago, the bulk of the statistical material was published in two separate documents. That format is followed again this year. The *Alaska Statistical Review*, and *Numbers: Basic Economic Statistics of Alaska Census Divisions* will be published later this summer as a two-volume set. Also, some previous reports contained a forecast or outlook. Because a detailed forecast was prepared in May 1982, one has not been included here.

This report utilized the industry breakdown used by the U.S. Department of Commerce, Bureau of Economic Analysis, in its presentation of personal income for Alaska. Labor and proprietors' income, a major building block for personal income figures, is presented on an industry-by-industry basis. These figures serve as an introduction to each section. The portion of state total labor and proprietors' income accounted for by an industry is given with similar percentages for the corresponding national industry. These figures are included to provide a rough comparison between Alaska's industrial structure and that of other states. As a convenience, the figures for Agricultural Services, Forestry, and Fisheries are combined with related processing activities under Manufacturing. Also, Wholesale and Retail Trade plus Services are presented as an aggregate.

It is important to note that there are numerous flows and interconnections among industries. Activity in a particular industry can generate employment and income in various other industries. Consequently, the figures on labor and proprietors' income provide only a partial picture of the impact which individual industries have on the state economy as a whole.

A brief section of this report is devoted to Alaska Native corporations. Because the corporations are involved in a variety of industries, a better picture of their overall activities can be gained by this consolidation.

This report relies on numerous sources for background material. In order to avoid extensive footnoting, a list of sources has been provided at the end of the report. Acknowledgement is also given to numerous individuals who contributed time and information to this publication.

Table I shows the composition of personal income for Alaska during the period 1974 - 1981. Per capita personal income in Alaska has grown by about 9.5 percent per year. This rate of growth is slightly lower than the 9.8 percent experienced nationally for the same period.

Table I: Personal Income in Alaska 1974 - 1981
($ thousands)

	State of Alaska							
	1974	1975	1976	1977	1978	1979	1980	1981[1]
Labor and proprietors' income by place of work								
By type								
Wage and salary disbursements	2,169,031	3,475,628	4,283,260	3,823,574	3,634,129	3,764,446	4,056,500	4,618,330
Other labor income	99,461	175,783	204,242	284,859	299,761	332,751	391,250	452,330
Proprietors' income	121,225	154,363	148,334	236,219	237,074	256,908	277,000	307,330
Farm	978	3,132	2,565	2,696	2,450	2,298	1,500	1,330
Nonfarm	120,247	151,231	195,769	233,523	234,524	254,610	275,250	306,000
By industry								
Farm	1,764	4,134	3,676	4,362	5,784	6,138	6,000	6,330
Nonfarm	2,387,993	3,801,640	4,722,160	4,340,290	4,165,180	4,347,967	4,719,000	5,371,670
Private	1,506,231	2,807,981	3,632,328	3,161,733	2,865,773	2,959,719	3,269,500	3,764,000
Agricultural services, forestry, fisheries, and other	34,975	33,535	47,926	39,052	35,867	40,465	43,250	44,330
Mining	70,988	116,079	137,580	181,960	245,879	261,279	304,500	393,330
Construction	425,556	1,095,919	1,584,614	955,181	525,634	442,145	475,000	593,330
Manufacturing	144,725	160,778	197,201	225,738	257,021	319,888	395,500	415,000
Nondurable goods	86,630	94,789	126,122	149,022	178,504	214,566	272,500	267,670
Durable goods	58,095	65,989	71,079	76,716	78,517	105,322	122,500	147,330
Transportation and public utilities	237,550	408,046	441,212	464,162	519,987	552,334	589,750	678,330
Wholesale trade	78,382	128,339	150,059	150,157	148,691	153,448	163,500	196,330
Retail trade	184,892	257,637	296,415	328,641	353,125	381,817	408,000	460,330
Finance, insurance, and real estate	65,525	96,436	130,249	158,610	178,030	182,108	191,250	216,330
Services	263,717	511,202	647,072	698,232	601,539	626,235	699,500	768,000
Government and government enterprises	881,722	993,659	1,089,832	1,178,557	1,299,407	1,388,248	1,448,750	1,607,670
Federal, civilian	266,841	308,338	321,968	344,282	370,127	388,527	404,000	434,000
Federal, military	254,669	259,199	263,756	273,255	288,315	297,896	308,000	334,000
State and local	360,212	426,122	504,108	561,020	640,965	701,825	736,500	839,330
Derivation of personal income by place of residence								
Total labor and proprietors' income by place of work	2,389,717	3,805,774	4,725,836	4,344,652	4,170,964	4,354,105	4,724,500	5,378,000
Less: Personal contributions for social insurance by place of work	137,275	175,094	203,960	233,456	225,676	258,179	292,000	359,330
Net labor and proprietors' income by place of work	2,252,442	3,630,680	4,521,876	4,111,196	3,945,288	4,095,926	4,432,500	5,019,000
Plus: Residence adjustment	223,043	633,941	-914,233	-472,985	-310,454	-291,135	-321,250	-368,670
Net labor and proprietors' income by place of residence	2,029,399	2,996,739	3,607,643	3,638,211	3,634,834	3,804,791	4,111,000	4,650,000
Plus: Dividends, interest, and rent	168,446	243,980	295,966	315,542	310,846	359,747	444,500	529,330
Plus: Transfer payments	238,830	286,906	291,225	343,507	366,761	367,158	411,000	475,670
Personal income by place of residence	2,436,675	3,527,725	4,194,834	4,297,260	4,312,441	4,531,696	4,966,000	5,655,330
Per capita personal income (dollars)	7,138	9,673	10,274	10,416	10,504	11,152	12,360	13,478

[1] Data available for three quarters

Summary

The Alaska economy experienced a relatively good year in 1981. The overall economy showed strength compared to local economic activity in previous years, as well as to general business conditions in the United States. Personal income in Alaska was almost 14 percent higher in 1981 than in 1980. Although high unemployment rates persisted, total employment grew by about 7.2 percent in 1981. Prices, as measured by the Anchorage Consumer Price Index for all urban consumers, rose by 7.3 percent in the year ending in November, 1981. This is a considerable improvement from the 10.7 percent growth experienced for the year which ended in November, 1980.

The construction industry was a focal point for much of the strength in the state economy during 1981. The major construction categories — residential, non-residential building, and non-building construction — showed solid activity during the year. A resurgence in home construction led the way, bolstered by below-market interest rates provided through the Alaska Housing Finance Corporation (AHFC). Ambitious state and local government building programs, and a dramatic expansion of office space were also pivotal elements in the industry's strong showing.

The petroleum industry contributed to the office building boom as well as to major developmental efforts at Prudhoe Bay and the Kuparuk River oil fields. The proposed Alaska Natural Gas Transportation System (ANGTS) crossed a legislative hurdle with the passage of a waiver package by the U.S. Congress, but the project was still lacking financial support at year's end. Usibelli Coal Company entered into a long-term contract for the export of coal to Korea in what many hope will be a path-breaking entry into the Pacific Rim coal market by Alaskan interests. U.S. Borax continued exploratory efforts at the Quartz Hill molybdenum deposits near Ketchikan, one of many such exploratory endeavors by companies throughout Alaska.

The timber industry continued to be plagued by recession and slowed activities in important Japanese markets. In 1981, an important legal case involving allegations of antitrust violations was brought against major Southeast Alaska forest products companies. A U.S. district court judge ruled in favor of the plantiff, Reid Brothers Logging, in the case which is now under appeal.

The fishing industry's elation over good catches in 1981 and anticipated large runs in 1982 was dampened considerably by the recall of some canned salmon early this year. The recall stemmed from the discovery of some defective cans of the product. At this writing, industry and government have devoted considerable effort to isolating the cause of the problem, determining its scope and mitigating negative impacts.

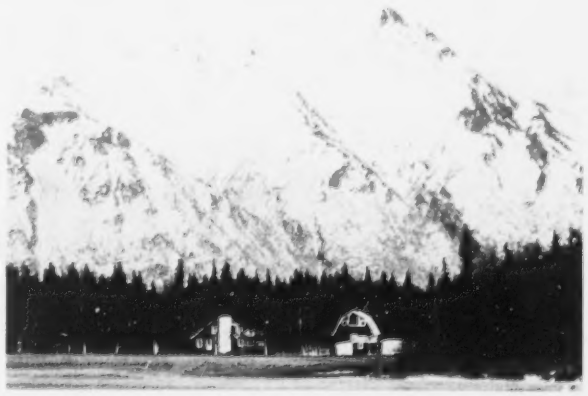
During the period 1960 - 1978, the annual rate of growth in non-agricultural wage and salary employment in trade and services surpassed the rate of employment growth for the total Alaska economy. In the 1978 - 1980 period, services continued to grow more rapidly than total employment, while trade employment growth proceeded more slowly. Because completely comparable employment data have not been published for 1981, it is not possible to determine if these trends have continued.

Passenger traffic was up at both the Anchorage and Fairbanks International Airports in 1981. Freight activity was up slightly at Anchorage, and down slightly at Fairbanks. The Alaska Railroad showed gains in freight operations during 1981. A substantial portion of the activity can be attributed to sand and gravel loads for various southcentral construction sites. Planning, reconnaissance, and construction work proceeded on hydroelectric facilities around Alaska, while lawmakers debated the merits of various plans for additional power development.

The impact of federal budget cuts was a concern for both state and local governments. Reductions in federal aid and a softening of world petroleum markets complicated the State budget process and led to significant revisions in spending plans.

National financial markets were very volatile in 1981. Uncertainty over financing of federal deficits, the impact of financial deregulation, and the interpretation of monetary aggregates in light of financial innovations were contributing factors. State financial institutions benefited from the recovery of home building and the investment of public funds.

Alaska's Native corporations continued to diversify and rationalize their holdings while awaiting conveyance of more land entitlements. One regional corporation, Sealaska, entered the ranks of *Fortune* magazine's 500 largest firms.



AGRICULTURE

($ thousands)

	1974	1975	1976	1977	1978	1979	1980	Average Annual Growth Rate 74-80
Labor and Proprietors' Income (LPI)	$1,764	$4,134	$3,676	$4,362	$5,784	$6,138	$6,000	22.63%
Industry LPI as % of State Total LPI	1	1	1	1	1	1	1	
National Industry LPI as % of National Total LPI	3.3	3.0	2.3	2.1	2.4	2.5	1.8	

Agricultural Land Use

Alaska's agricultural development can best be examined in the context of trends in U.S. Agriculture. The National Agricultural Lands Study gives this synopsis of major trends:

"U.S. agriculture is undergoing a major transition. For several previous decades, the amount of land in cultivation had not changed significantly; but during the 1970s, cropland harvested increased by more than 60 million acres as American farmers responded to a dramatic rise in demand for U.S. agricultural exports. That demand is projected to grow larger still in the coming ten years, and as it does, pressures on the U.S. agricultural land base will increase. By the year 2000, most if not all of the nation's 540 million-acre cropland base is likely to be in cultivation. When seen from this perspective, continuing nonagricultural demands upon the agricultural land base becomes a matter for national concern.

The United States has been converting agricultural land to nonagricultural uses at the rate of about three million acres per year; about one million acres of this is from the cropland base. This land has been paved over, built on, or permanently flooded, thus converted to nonagricultural uses. For practical purposes, the loss of this resource to U.S. agriculture is irreversible."[1]

"Of the more than 2 million farms counted by the agricultural census, 200,000 now produce nearly two-thirds of the nation's food and fiber. Agriculture's marketing system has become increasingly geared to large-scale producers, as have the businesses that sell fertilizers, seeds, and other materials to farm operators. Spiraling land prices have increased the entry barriers that confront beginning farmers and have done much to turn agriculture into a restricted profession."[2]

The importance of export markets, the loss of traditional farmland to non-agricultural uses, and the economies of large scale production are critical facets of Alaskan agricultural development. The changes in Alaskan agriculture can be examined by using statistics from the recently released *1978 Census of Agriculture*. A farm by census definition is " . . . any place from which $1,000 or more of agricultural products were sold or normally would have been sold during the census year."[3]

In 1978, that census showed 383 farms, and land in farms of 1,286,463 acres. Because a sizeable portion of this acreage is grazing land leased from state and federal governments, it is useful to examine patterns of change in harvested cropland. Between 1974 and 1978, the number of farms with this type of activity increased from 237 to 303, while acreage went from 16,750 to 20,538 acres. The 1978 size distribution is shown in Table II.

Changes which have occurred since 1978 are well summarized in the June, 1981 report *Alaska Agricultural Statistics:* "Agricultural production in Alaska is still confined to relatively small areas of the State's total acreage. The availability of new agricultural land continues to be tight. However, state land sales since 1978 have placed over 90,000 acres of potential agricultural land into private ownership. Most of this acreage is in the Delta Junction area, with tracts of land ranging up to 3,200 acres for the purpose of grain farming."[4]

The figures demonstrate the significant expansion in Alaska's cropland base stemming from State of Alaska development activities. The promotion of grain farming at Delta Junction, and dairy farming in the Pt. McKenzie area are the major efforts to date. The farms at Delta average 2,560 acres each, while some 19 dairies are planned for the 15,000-acre McKenzie project. It is important to point out that while the economies of modern agriculture often require larger operations, Alaska has experienced growth in the number of small farms. State sales of smaller tracts and the use of farming as a supplement to other income sources are factors contributing to this growth.

Table II:
Alaska Farms with Harvested Cropland
Distribution by Size: 1978

Farms by Acres Harvested	No. of Farms	Percent of All Farms
1 to 49 acres	202	66.7
50 to 99 acres	49	16.2
100 to 199 acres	24	7.9
200 to 499 acres	23	7.6
500 to 999 acres	2	.7
1000 acres or more	3	1.0
Total	**303**	**100.0**

Source: 1978 Census of Agriculture

While Alaska has experienced a net growth in agricultural acreage, it has not escaped the loss of prime agricultural land to other uses. The Pt. McKenzie project is aimed at rebuilding a declining dairy industry. The loss of agricultural land in the Matanuska Valley to residential development is cited as a major factor contributing to that decline.

The development of Alaska's agricultural potential has stimulated efforts to find far-eastern markets as an outlet for Alaskan crops. Plans for a grain terminal at tidewater, and other improvements in the transportation infrastructure are viewed as important elements in this effort. While in-state use of crops for dairy herds, as well as beef and swine production, is an important element of the overall development plan, it is projected that grain production from present and future projects will produce sizeable surpluses for an export market.

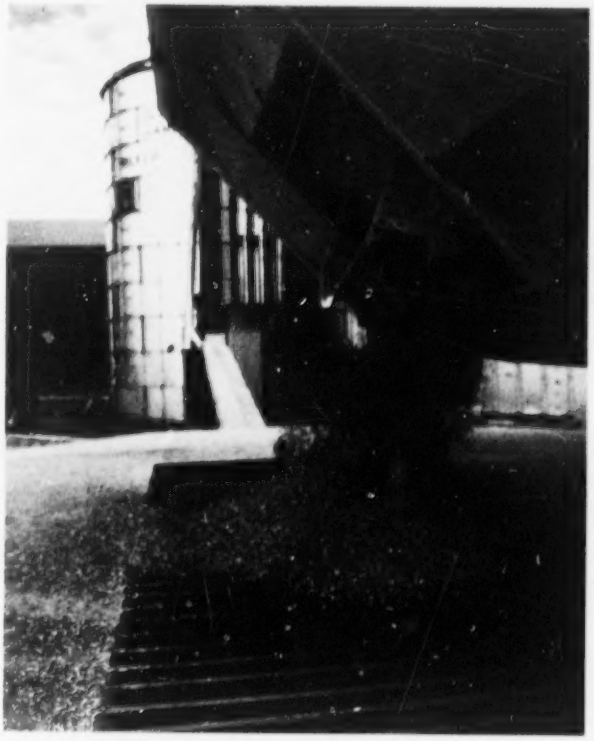


Table III:
Value of Agricultural Production
in Alaska

	Value in Thousands of Dollars			
	1960	1970	1979	1980
Crops	2416.0	2027.0	5136.0	5787.5
Livestock & Poultry	3147.4	3126.0	4102.0	3872.0
Total	**5563.4**	**5153.0**	**9238.0**	**9659.5**

Source: Alaska Agricultural Statistics - June, 1981

Crop Production and Value

Data on the volume and value of agricultural production are gathered and published by the Alaska Crop and Livestock Reporting Service (ACLRS), a cooperative effort of the United States Department of Agriculture, the University of Alaska, and the Alaska State Division of Agriculture. 1980 is the last year for which complete data are available.

Table IV:
Volume of Agricultural Production
in Alaska

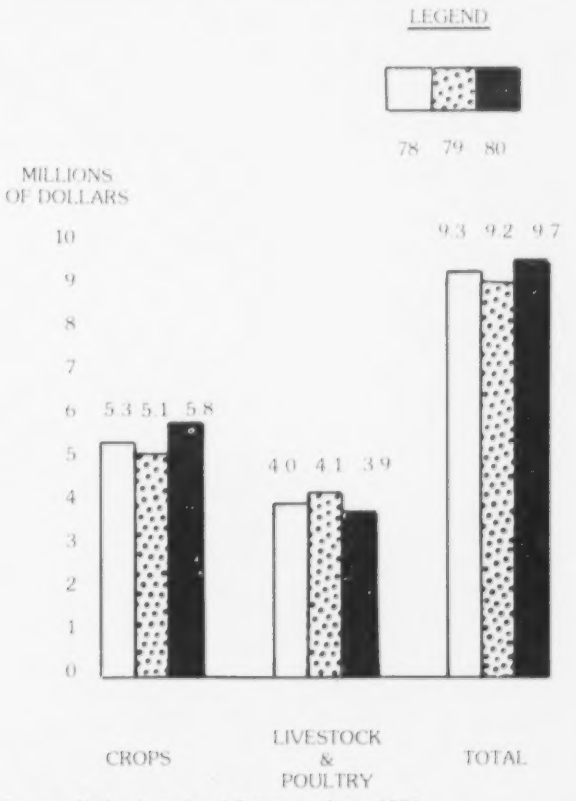
		Production (Thousands of Units)			
		1960	1970	1979	1980
Crops					
Potatoes	cwt	131.4	106.8	85.0	77.0
Barley	bu	87.4	46.5	287.0	339.0
Hay	tons	10.5	9.4	15.8	15.0
Silage	tons	20.2	13.6	12.4	12.4
Oats	bu	79.8	22.5	15.6	26.1
Vegetables	cwt	20.2	15.9	23.5	23.3
Livestock and Poultry					
Beef	lbs	357.0	963.0	748.0	767.0
Pork	lbs	151.0	135.0	221.0	232.0
Mutton	lbs	12.0	52.0	24.0	18.0
Wool	lbs	125.0	239.0	32.0	38.0
Poultry	lbs	55.0	73.0	170.0	172.0
Eggs	doz	529.8	408.0	558.0	367.0
Milk	lbs	20.4	18.6	13.0	12.5

Source: Alaska Agricultural Statistics — June, 1981

Crop production was relatively stable between 1979 and 1980 with the exception of increased barley production. Barley was planted on 14,000 acres in 1980 compared to 7,500 acres the previous year. Grain was harvested on 11,500 of these acres for an average yield of 29.5 bushels per acre. Weather and predator problems contributed to lower than anticipated yields. Livestock and poultry production was also relatively steady except for a dramatic drop in egg production. Recent data indicate that egg production in 1981 has recovered considerably. Preliminary figures show October production which was double that of the same month in 1980.

In value terms, Alaska's agricultural production increased by 5.4%. Crop value rose by 13.7% to offset a decline of 4.9% in value for livestock and poultry. The drop in value is attributable to the decline in egg production in 1980.

Graph I: Alaska Value of
Agricultural Production
1978-1980



Source: Alaska Agricultural Statistics - June, 1981

	($ thousands)							Average Annual Growth Rate
	1974	**1975**	**1976**	**1977**	**1978**	**1979**	**1980**	**74-80**
Labor and Proprietors' Income (LPI)	$ 70,909	$116,079	$137,580	$181,960	$245,879	$261,179	$304,500	27.49%
Industry LPI as % of State Total LPI	3.0	3.1	2.9	4.2	5.9	6.0	6.4	
National Industry LPI as % of National Total LPI	1.3	1.4	1.5	1.5	1.6	1.7	1.8	

OIL AND GAS

Employment and Production

The Alaska oil and gas industry employed an average of 7,055 workers through November, 1981. This level compares to an average of 6,001 workers for the same period in 1980.

Net production in 1981 was approximately 586.7 million barrels of crude oil and 245.5 billion cubic feet of natural gas. The Prudhoe Bay field accounted for approximately 95 percent of the oil and 83 percent of the gas production. Prudhoe Bay, which has been producing since June 1977, delivered the two billionth barrel on November 4, 1981. The field averages about 1.5 million barrels of crude oil per day. The oil is transported via the Trans-Alaska Pipeline to Valdez and shipped to national markets.

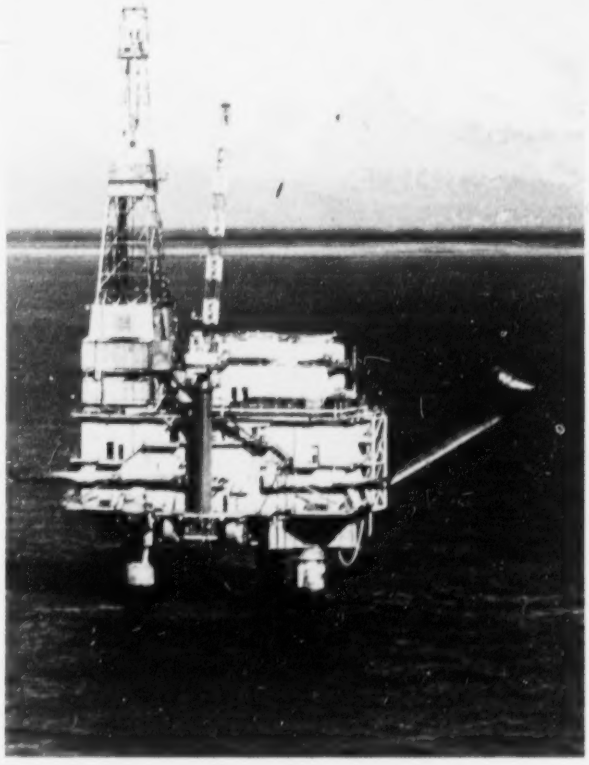
Oil Prices

Softening of world oil prices during 1981 has significantly altered predictions of future State oil revenues. The bahavior of crude oil prices was carefully followed because petroleum-based revenues account for approximately 90 percent of Alaska's General Fund unrestricted revenues.

The Organization of Petroleum Exporting Countries (OPEC) dominates world oil pricing. The price of Alaskan oil is set according to the existing OPEC price structure with adjustments for the relative quality of Alaska's crude oil. While OPEC controls a large share of the free world oil supply, it cannot dictate demand in consuming countries. During 1981, the quantity of oil supplied began to exceed the quantity in demand, due to increased conservation and more efficient use of petroleum products. This was particularly true in the United States. The result was downward pressure on the price of crude oil. The oil "glut" of 1981 led to reduced prices for both OPEC and non-OPEC oil, including Alaska North Slope crude. During the summer of 1981, both spot and contract prices of crude oil fell by as much as $4 per barrel. The near-term outlook for crude oil prices is one of small and possibly negative real growth. Hence, future developments in world crude oil demand-supply balances, and the attendant impact on prices, will be of continued importance to the State of Alaska.

Oil and Gas Leases

The State held two oil and gas lease sales during 1981. Sale 33 (May 13) offered lands in Upper Cook Inlet and in the Susitna Valley. Sale 32 (August 25) offered land on the Kenai Peninsula and offshore in Cook Inlet. The combined offering amounted to 1,017,836 acres of 280 tracts. The State successfully leased 162 tracts covering 582,406 acres.



In June, Bureau of Land Management's Alaska Outer Continental Shelf Office (OCS), held a reoffer sale for the eastern Gulf of Alaska. This was a reoffer of Sale 55 held in October, 1980. The June sale offered 996,301 acres in 175 tracts with only one tract of 5,693 acres successfully leased. In September, Alaska OCS held Sale 60 for Lower Cook Inlet tracts. Of the 864,646 acres in 153 tracts offered, 73,157 acres in 13 tracts were successfully leased. There were no onshore offerings in 1981 on federal lands. The proposed December 16 offering of the National Petroleum Reserve was postponed until January, 1982.

Petrochemicals[3]

Pursuant to the Memorandum of Understanding and Intent (MOU) between the State of Alaska and the Dow-Shell Group (nine companies headed by the Dow and Shell Chemical Companies), a year-long study evaluating the feasibility of a petrochemical industry in Alaska was conducted. The industry would be based on natural gas liquids. The results of the Alaska Petrochemical Industry Feasibility Study were presented in Juneau on September 9, 1981.

A review of the feasibility study led the Petrochemical Task Force to postpone a decision on the disposition of the State's royalty share of the natural gas liquids. The postponement extended the MOU until June 30, 1982. It was believed that there was insufficient information for the State to make an "irrovocable investment decision" as required in the MOU.

Alaska Natural Gas Transportation System (ANGTS)

Construction of the ANGTS did not begin in 1981. The major stumbling block to gasline construction continues to be the unavailability of private financing. The sheer size of the project and uncertainties related to construction remain major concerns. A waiver package designed to reduce uncertainty was submitted to Congress in October, and subsequently passed. Issues addressed in the waiver package were discussed in the October, 1981 report of the Alaska Economic Information and Reporting System (AEIRS). Despite passage, there was no financial package established nor apparently pending at the end of 1981. Hence the fate of ANGTS remains uncertain, a full five years after the passage of the Alaska Natural Gas Transportation Act. For construction to begin in 1983, a financial package will have to be designed early in 1982 due to the limited shipping season along Alaska's North Slope.

Alaska Oil Company

On May 21, 1981, the Alaska Oil Company (AOC) announced that adequate financing for a proposed refinery was not forthcoming. The AOC then signed and transmitted to the State of Alaska a termination of agreement on August 7, 1981. However, given provisions of the contract, AOC was required to take delivery and pay for the contracted quantity of crude oil through January 12, 1982.

Pacific Liquid Natural Gas

PAC-LNG still suffers from insufficient financial support and reserves. It was determined that the Point Conception, California receiving terminal could be constructed safely. Hence, outstanding state permits in California are expected to be approved. Nevertheless, Alaska's agencies have recommended against state financial involvement in the project at this time.

COAL[4]

From the mid 1960's to the early 1970's, Alaska experienced a move away from coal as an energy source. The Usibelli Mine at Healy in the Nenana coal fields was the only mine surviving this transition. The mine currently serves military bases, the University of Alaska, the Golden Valley Electrical Association, and the Municipal Utility System in the Fairbanks area. Annual production in the last several years has been in the 600-700 thousand ton range. The mine recently signed a long-term contract with Korean interests and will ultimately send 800,000 metric tons of coal a year to that country.

While estimates of total reserves require additional refinement, it is obvious that Alaska has substantial coal resources. Data on major coal areas are shown in Table V.

Of these fields, the Matanuska and Nenana resources are located closest to existing transportation networks. The North Slope Basin is relatively inaccessible, but may constitute the world's largest coal province. An October test shipment went to Japan from the Beluga field in the Cook Inlet-Susitna Basin. Placer Amex and Diamond Shamrock, the primary leaseholders of that field, have developed about two billion tons of strippable reserves to date, and foresee ultimate export tonnages of between 15 and 25 million tons annually.

The 1974 oil embargo and 1200 percent increase in world oil prices since 1973 have stimulated the search for less expensive and more secure sources of energy. A major alternative, nuclear power, has encountered technical, economic, and environmental problems. Coal, despite environmental problems, has become attractive to large energy users. In Alaska, as elsewhere, port facilities capable of handling large volumes are a necessary precondition to export development. Further, Alaska will also face intense competition for international markets, primarily from Australia and South Africa, as well as competition from coal-producing areas of the western United States.

Table V: Alaskan Coal Resources[1]

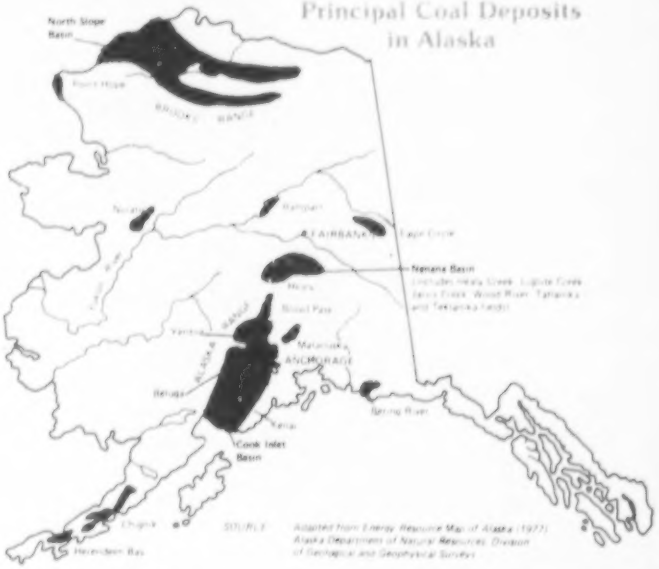
Major Fields	Estimated Resources
North Slope Basin	460 - 4,146 billion tons total[2]
Nenana (Interior Alaska)	7 billion tons identified 17 billion tons total
Cook Inlet Susitna Basin (Southcentral Alaska)	11 billion tons identified 1,500 billion tons total
Matanuska (Southcentral Alaska)	25 billion tons identified 5 billion tons total

[1] The demonstrated coal reserve base for the United States on January 1, 1976 was 438 billion tons.

[2] Estimated resource potential covers a broad range. More precise estimates will require additional research.

Source: *Alaska's Resources*, May - June, 1981, VOL. XXII, No. 2, Alaska Department of Natural Resources.

Principal Coal Deposits in Alaska



NON-FUEL MINERALS[5]

Preliminary information from the U.S. Bureau of Mines for 1981 shows production figures of nonfuel minerals at $117 million, a three percent increase over 1980. Some industry observers believe estimates of gold production are badly understated in official figures, with actual values significantly higher. Knowledgeable sources place gold production at approximately 125,000 troy ounces, compared to the 18,000 troy ounces reported. Inclusion of this unofficial estimate would increase the value of production by about $50 million.

Sand and gravel ($87 million), gold ($58 million, unofficial), and crushed stone ($20 million) were the major products. Production totals of gemstones, silver, barite, platinum group metals, placer tin, and lode tungsten concentrates were valued at $1.5 million.[6]

Average wage and salary employment in nonfuel mining is estimated at 587 in 1981, up from 493 a year earlier. These figures do not include substantial non-wage, non-salary employment in this industry.

There is a national security interest in the degree of U.S. dependence on imports of strategic metals and minerals. Table VIII indicates the degree of dependence on foreign sources, many of which are politically and economically unstable, for selected metals and minerals.[7]

An estimated 400 placer operations and several small lode mines produced gold and silver in 1981. Alaska Gold Company operated two dredges near Nome, and reactivated a dredge on the Hogatza River. Northland Gold Dredge worked near Nyac, while several small bucket-line dredges worked near Seward and in the Tuskokwim River. Grant, Mikado, and Silver Star operated lode mines which produced gold and silver ore.

From 1975 to early 1980, all U.S. platinum group metals production was a by-product of copper operations. Last summer, the only operating mine, owned by R.A. Hanson Company, resumed production of these metals at Goodnews Bay.

The U.S. Bureau of Mines estimated that exploration expenditures for non-fuel minerals were roughly $100 million in 1981, a substantial increase over 1980. Major companies continued and, in some cases, accelerated exploration activities in the Alaska and Brooks Ranges, DeLong Mountains, Seward Peninsula, Southeastern panhandle, and the Tanana uplands.

In 1974, a molybdenum deposit was discovered at Quartz Hill, 45 miles east of Ketchikan. The deposit, which is several miles from tidewater, is rated as one of the largest and most important reserves in the world. U.S. Borax and Chemical Corporation began work on a phase of the project which will eventually include a pioneer access road and bulk sampling. Surface diamond drilling and several thousand feet of underground workings prepared the way for bulk sampling. Extensive environmental and engineering studies continue to date on various aspects of the proposed operation.

Other important activity occurred at Green's Creek on Admiralty Island near Juneau. Work on the silver, lead, gold, and zinc deposits by Noranda Exploration, Inc. included driving a 400-foot crosscut from the existing adit into the mineralized zone, test sampling and mill design. Diamond drilling, soil testing and topographic mapping continued, partly for the evaluation of tailing disposal sites.

The upward spiral of metals prices ended in early 1980. Precious metals, which experienced spectacular price run-ups in 1979, were particularly hard hit. Gold prices, after fluctuating wildly in 1980, declined by 32 percent in 1981. Silver, after declining by 26 percent in 1980, declined a further 49 percent in 1981. While platinum group metals experienced similar large swings, more modest price declines were experienced in other metals. Some metals, such as mercury and zinc, had price increases in 1981.

The general decline in metals prices was due to the unsustainable speculative price rise that occurred in 1979, particularly for the precious metals, and the recession in the U.S. economy that began in 1981. Those base metals which are used heavily in the automobile and home construction industries were severely affected.

Table VI: Nonfuel Mineral Production in Alaska[1]

Mineral	1980 Quantity (thousands)	1980 Value	1981[P] Quantity (thousands)	1981[P] Value
Gem stones	NA	$50	NA	$50
Gold (recoverable content of ores, etc.) troy ounces	9,826	6,019	18,000	8,400
Lead metric tons	31	29	—	—
Sand and gravel thousand short tons	44,911	85,214	46,400	86,800
Silver (recoverable content of ores, etc.) troy ounces	8	172	W	W
Stone (crushed) thousand short tons	3,990	19,978	3,990	19,978
Combined value of barite (1980), platinum-group metals, tin, tungsten, and items indicated by symbol W	NC	1,983	NC	1,460
Total	**NC**	**113,445**	**NC**	**116,688**

[P] Preliminary

NA: Not available

W: Withheld to avoid disclosing company proprietary data; value included in "Combined value" figure

NC: Not applicable

[1] Production as measured by mine shipments, sales, or marketable production (including consumption)

Table VII: Selected Metals Cash Prices

METALS	YEAR-END PRICE* 1979	1980	1981	ANNUAL PERCENTAGE CHANGE+ 79-80	80-81
ALUMINUM (Ingot lb.)	66	76	76	15	0
COPPER (Cathodes lb.)	1.03-1.06	84¼-.89	.78-.80	17	10
LEAD (lb.)	.55-.57	.39	.31-.34	30	17
MERCURY (76 lb. flask NY)	370.00	380.00	415.00	3	9
NICKEL (Plating grade lb.)	3.25	3.50	3.29	8	6
TIN (Metals Week) (Composite lb.)	8.0979	7.7285	7.8264	5	1
ZINC (High grade lb.)	.375	.4175	.42-.46¼	11	6
GOLD (Krugerrand, wholesale)	558.00	609.00	412.00	9	32
SILVER (Troy oz.)	21.79	16.5	8.22	26	49

*Producer Price except for Mercury and Tin

+ Based on year-end prices

Source: The Wall Street Journal

Table VIII:
Estimated U.S. Net Import Reliance of
Selected Minerals and Metals
as a Percent of Consumption in 1980

Minerals & Metals	Net Import Reliance* as a Percent of Apparent Consumption**	Major Foreign Sources (1976-1979)	Probable or Known Occurence in Alaska***
CESIUM	100	Canada, W. Germany	Yes
COLUMBIUM	100	Brazil, Canada, Thailand	Yes
GRAPHITE	100	Mexico, S. Korea, Madagascar, USSR	Yes
MICA (Natural) Sheet	100	India, Brazil, Madagascar	
STRONTIUM	100	Mexico, W. Germany, Canada	Yes
GEM STONES	99	S. Africa, Belgium, Luxembourg, Israel United Kingdom, India	Yes
MANGANESE ORE	97	S. Africa, Gabon, Brazil, France	Yes
TANTALUM	97	Thailand, Canada, Malaysia, Brazil	
BAUXITE & ALUMINA	94	Bauxite: Jamaica, Guinea Alumina: Australia, Jamaica	
COBALT	93	Zaire, Belgium, Luxembourg, Zambia, Finland	Yes
CHROMIUM (Chromite)	91	S. Africa, Philippines, USSR, Turkey	Yes
PLATINUM – GROUP METALS	87	S. Africa, USSR, United Kingdom	Yes
FLUORSPAR	84	Mexico, S. Africa, Spain, Italy	Yes
TIN	84	Malaysia, Bolivia, Thailand, Indonesia	Yes
ASBESTOS	76	Canada, S. Africa	Yes
NICKEL	73	Canada, Norway, New Caledonia, Dominican Republic	Yes
CADMIUM	62	Canada, Australia, Mexico, Belgium, Luxembourg	Yes
POTASH	62	Canada, Israel	
ZINC	58	Canada, Honduras, Peru	Yes
TUNGSTEN	54	Canada, Bolivia, Thailand, S. Korea	Yes
ANTIMONY	53	China, Bolivia, Mexico, Belgium, Luxembourg	Yes
MERCURY	49	Spain, Algeria, Italy, Canada, Yugoslavia	Yes
SELENIUM	40	Canada, Japan, Yugoslavia	
BARIUM	38	Peru, Ireland, Mexico, Morocco	Yes
GYPSUM	38	Canada, Mexico, Jamaica	Yes
GOLD	28	Canada, USSR, Switzerland	Yes
IRON ORE	22	Canada, Venezuela, Brazil, Liberia	Yes
VANADIUM	15	S. Africa, Chile, Canada	Yes
COPPER	14	Canada, Chile, Zambia, Peru	Yes
SULFUR	13	Canada, Mexico	Yes

*Net Import Reliance: This is equal to imports minus exports plus adjustments for government and industry stock exchanges.

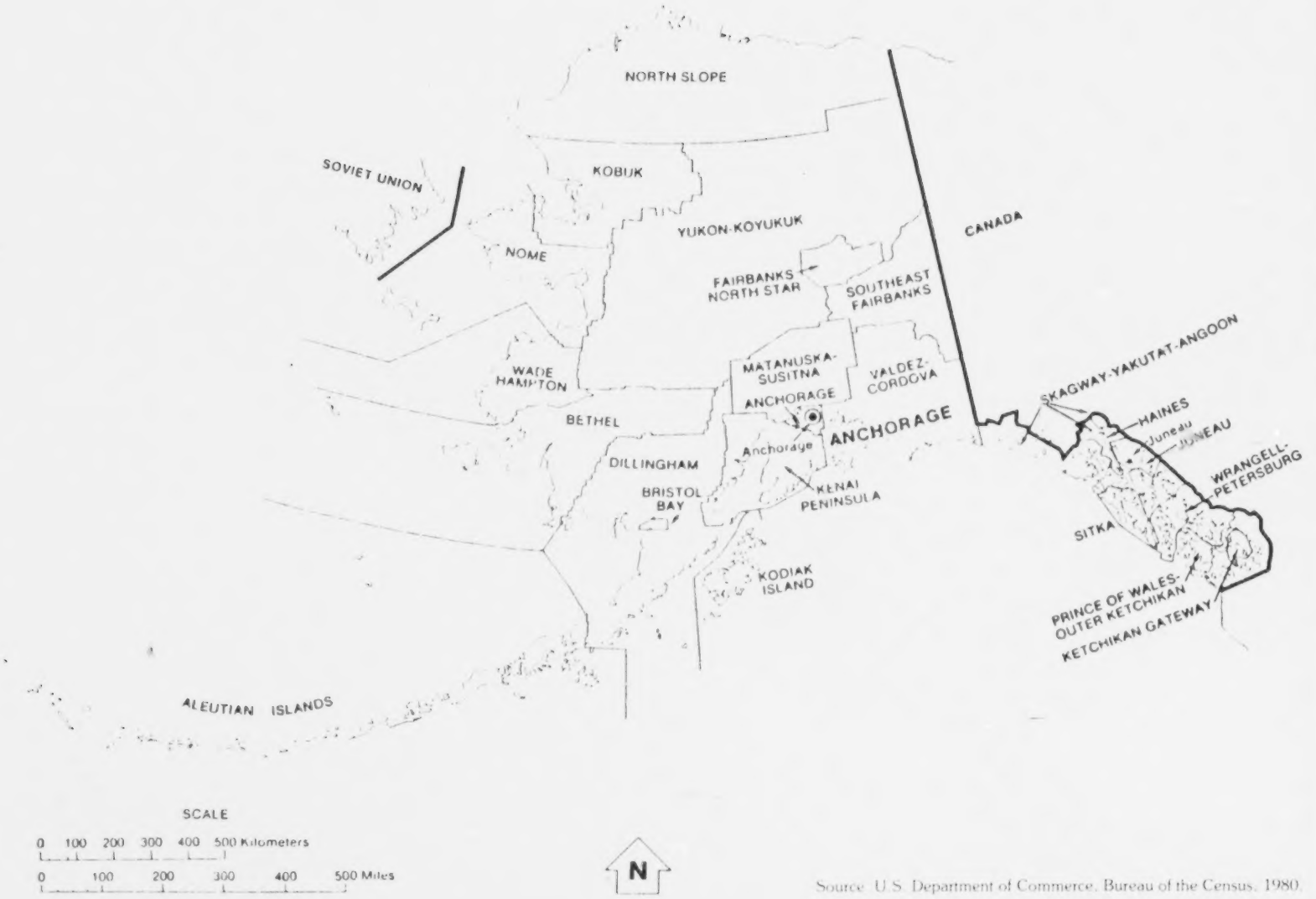
**Apparent Consumption: This is equal to U.S. primary and secondary production plus net import reliance.

***Found in actual or possible commerical quantities and concentrates.

Note: Silver and molybdenum fell into the net export category in 1980.

Source: U.S. Department of the Interior, Bureau of Mines, "Mineral Commodity Summaries, 1981."

Alaska Census Areas



Source: U.S. Department of Commerce, Bureau of the Census, 1980.

Table IX: Alaska's Principal Strategic Mineral Deposits

Mineral	Major Industrial Applications	Location	Census Area[1] *(See Map on preceeding page)*
ANTIMONY	Fire retardant, friction reduction alloy, batteries, refractories	Nome	Nome
		Solomon	Nome
		Wiseman	North Slope Borough
		Fairbanks	Fairbanks
		Tok	Southeast Fairbanks
		Kantishna	Yukon-Koyukuk
		Chulitna	Matanuska-Susitna
		Red Devil	Yukon-Koyukuk
ASBESTOS	Fireproof cement, friction products, textiles, gaskets	Kobuk	Kobuk
		Slate Creek	Southeast Fairbanks
		Nyac	Bethel
CHROMIUM	Metallurgical purposes, transportation, construction, refractories	De Long Mountains	North Slope Borough
		Kanuti River	Yukon-Koyukuk
		Seldovia-Eklutna	Kenai-Cook Inlet
		Bernard Mountain	Valdez-Cordova
		Union Bay	Wrangell-Petersburg
COBALT	Aerospace, electrical, catalysts, military uses	Brady Glacier	Skagway-Yakutat-Angoon
		Funter Bay	Skagway-Yakutat-Angoon
		Yakobi-Mirror Harbor	Sitka
FLUORITE	Steel industry, hydrofluoric acid	Lost River	Nome
GRAPHITE	Electrodes, lubricants, crucibles	Uncle Sam Mountain	Nome
		Sinuk	Nome
HAFNIUM	Filaments, rods, electronics	Iditarod-Innoko	Bethel
IRON	Steel alloy	Kemuk Mountain	Dillingham
		Klukwan	Skagway-Yakutat-Angoon
		Lituya Bay	Skagway-Yakutat-Angoon
		Snettisham	Juneau
MANGANESE	Chemicals, batteries, steel and copper and aluminum alloys	Uncle Sam Mountain	Nome
		Sinuk	Nome
		Yukon-Charley	Yukon-Koyukuk
		Central Alaska Range	Matanuska-Susitna
MERCURY	Batteries, scientific instruments, medicine	White Mountain	Nome
		De Coursey Mountains	Yukon-Koyukuk
		Red Devil	Bethel
MICA	Electronics	Sitkan Island	Prince of Wales-Outer Ketchikan

Mineral	Major Industrial Applications	Location	Census Area[1]
NICKEL	Electroplating, batteries, stainless steel	Emericks	Valdez-Cordova
		Spirit Mountain	Valdez-Cordova
		Brady Glacier	Skagway-Yakutat-Angoon
		Funter Bay	Skagway-Yakutat-Angoon
		Yakobi-Mirror Harbor	Sitka
NIOBIUM	WHD generators, energy converters, biological research	Rapid River	Yukon-Koyukuk
		Manley	Yukon-Koyukuk
		Ruby	Yukon-Koyukuk
		Bokan Mountain	Prince of Wales-Outer Ketchikan
		Iditarod-Innoko	Bethel
PLATINUM – GROUP METALS	Chemical catalysts, electronics	Brady Glacier	Skagway-Yakutat-Angoon
		Goodnews Bay	Bethel
		Salt Chuck	Prince of Wales-Outer Ketchikan
TANTALUM	Electronics, machinery alloys	Manley	Yukon-Koyukok
		Ruby	Yukon-Koyukok
TIN	Containers, electronics, bronze, construction, solder	Ear-Cape Mountain	Nome
		Lost River	Nome
		Rapid River	Yukon-Koyukuk
		Kugarok	Nome
		Manley	Yukon-Koyukuk
		Sithylemenkat	Yukon-Koyukuk
		Chulitna	Matanuska-Susitna
		Kantishna-Purkey	Yukon-Koyukuk
TITANIUM	Jet engines, airframes, nuclear missile construction	Kemuk Mountain	Dillingham
		Klukwan	Skagway-Yakutat-Angoon
		Lituya Bay	Skagway-Yakutat-Angoon
		Snettisham	Juneau
TUNGSTEN	Nuclear, space and aircraft "super" alloys, electronics, tool steel	Lost River	Nome
		Bear Mountain	North Slope Borough
		Upper Hodzana River	Yukon-Koyukuk
		Gilmore Dome	Fairbanks
		Chulitna	Matanuska-Susitna
		Kantishna-Purkey	Yukon-Koyukuk
		Golden Horn	Yukon-Koyukuk
		Willow Creek	Matanuska-Susitna
		Hyder	Prince of Wales-Outer Ketchikan
		Chichagof	Sitka
URANIUM	Nuclear power "fuels", nuclear medicine, military uses	Bokan Mountain	Prince of Wales-Outer Ketchikan

[1]These census area designations are approximate. They have been provided to give the general geographic locations of deposits. Locations can only be approximated when deposits cross boundaries of several census areas.

Source: Department of Natural Resources, Division of Geological & Geophysical Surveys.
"Overview of Alaska's Strategic Minerals," by Thomas K. Bundtzen

($ thousands)

	1974	1975	1976	1977	1978	1979	1980	Average Annual Growth Rate 74-80
Labor and Proprietors' Income (LPI)	$425,556	$1,095,919	$1,584,614	$955,181	$525,634	$442,145	$475,000	1.85%
Industry LPI as % of State Total LPI	17.8	28.8	33.5	22.0	12.6	10.2	10.1	
National Industry LPI as % of National Total LPI	6.2	5.8	5.8	5.9	6.1	6.1	5.9	

Construction

Construction activity in Alaska can be usefully examined within a framework provided by national conditions. Contract values for major construction categories at the national level are compared for 1980 and 1981 in the following chart:

Table X: United States: Construction Contract Value ($ millions)

	1980 Total	1981 Preliminary
Total Non-Residential Building	$ 52,345	$ 56,325
Total Residential Building	63,206	62,100
Non-Building Construction	31,613	29,350
All Construction	**147,164**	**147,775**

Source: Data Resources, Inc. - November, 1981

Nationally, the only strong construction activity was in the office building component of non-residential construction. Contract value for office building construction increased 37 percent in 1981 to $18.5 billion. The critical residential construction element showed a slight decrease in nominal contract value, which translates into a significant decline in real activity. Tight credit markets, high interest rates and affordability problems reduced housing starts to 867,000 in October and November, the lowest level for a two-month period in 35 years.

Prospects for the national industry are being determined by the interplay of three key factors: 1) public funds which finance over 25 percent of all construction are being reduced by budget cuts; 2) accelerated depreciation under new tax laws should stimulate commercial and industrial building; and 3) restricted monetary growth will slow recovery of the national housing market.

Alaska's construction industry had a strong year in 1981 when compared to the national industry and to the state industry for the past several years.

Non-Residential Building

Office building construction in Alaska followed national trends with a strong year in 1981. While estimates vary because certain buildings are only at the proposal stage, it is probable that between 1.5 and 2.5 million square feet of space will be added to the Anchorage office space stock in the next several years. Projects with construction activity in 1981 are shown with approximate useable square feet in parentheses: Atlantic Richfield Tower (424,000), Frontier Building (240,000), Hunt Building (286,000), Resolution Tower (96,000), and Alaska Mutual Savings (55,000). An additional 200,000 square

feet is estimated to have been constructed in smaller office complexes. This flurry of construction activity follows limited building during the post-pipeline period and accommodates built-up demands from the petroleum industry, increased government, service, and total employment. In Juneau, construction activity occurred on four office projects. These include a $10 million, 64,000 square-foot office building constructed for Goldbelt, Inc., the conversion of a movie theater to office space for the State Department of Fish and Game, another 64,000 square-foot structure to include state and private offices, and a smaller 7,500 square-foot structure.

Store and commercial building activity included the addition of 300,000 square feet of space at two Anchorage shopping malls. While comprehensive figures on this activity are not available, this construction tends to mirror activity in the housing sector. Continued strength in home construction should portend a healthy environment for retail and other commercial construction.

Institutional construction (public buildings, educational and health facilities) benefitted from a substantial increase in state and local capital spending. In fiscal year 1981, over $50 million was spent on State capital projects related to education. A large portion of this amount went to rural education attendance areas. Anchorage proceeded with construction of several structures as part of the "Project 80's" program. These include a $25 million sports arena and $20 million convention center. Also in Anchorage, construction work occurred on the largest state-owned building — a 287,110 square foot satellite terminal at the International Airport. Correctional and jail facilities at Eagle River, Palmer and Ketchikan were a few of the numerous state-funded building projects.

Non-Building Construction

A review of the State of Alaska's Annual Financial Report for fiscal year (FY) 81 shows considerable expenditures on rural and urban airport improvements, ports, harbors, fish hatcheries, and highways. These projects included a large road construction contract for the four-lane Minnesota Drive extension in Anchorage. The project covers 2.15 miles and will cost approximately $13 million.

Other important projects included construction work on the Valdez port facility, and expansion of the FAA traffic control center at Elmendorf Air Force Base.

Construction of facilities for electrical utilities is in a depressed state nationwide because of excess capacity, lowered expectations of future energy requirements, and uncertainty about the safety and economics of nuclear plants. In contrast, utility-related building is one of the most active segments of Alaska's construction industry.

Table XI shows hydroelectric projects on which either extensive planning or construction work was done in 1981:

Table XI:
Major Hydroelectric Facilities Proposed or Under Construction in Alaska

Project	Location	Current Cost Estimate
Bradley Lake	Kenai Peninsula	$ 478,000,000
Green Lake*	Sitka	60,000,000
Solomon Gulch*	Valdez, Glennallen	68,000,000
Swan Lake*	Ketchikan	90,000,000
Terror Lake	Kodiak	173,000,000
Tyee Lake*	Wrangell Petersburg	99,000,000
Anchorage-Fairbanks Transmission Intertie		131,000,000

*Projects with 1981 construction activity.

Source: Alaska Power Authority, Cost Estimates as of January 11, 1982.

Petroleum-related construction activity flourished in 1981. ARCO Alaska's 1981 sealift included 34,000 tons of modules and other oil field equipment valued at $250 million. Twenty-four modules are for the east half of the Prudhoe Bay field, while twenty-two modules are for the new Kuparuk River oil field. The modules include elements of a low pressure separation system for the Prudhoe field which will allow operators to lower wellhead pressure and facilitate oil flow. A construction work force of five hundred installed sea-lifted production facilities for the Kuparuk field. That field, one of the ten largest in North America, went into production late in December and will deliver up to 80,000 barrels a day to the Trans-Alaska Pipeline. Much of the work on the sixteen-inch pipeline connecting Kuparuk to TAPS was completed in 1981. SOHIO's 1981 sealift was composed of forty-five modules and field equipment weighing 16,000 tons and valued at $50 million. The modules were of three types: well pad separation, test separation, and produced water expansion project. These will be used for ongoing development of the Prudhoe field.

The proposed Alaska Natural Gas Transportation System (ANGTS) continued to be a major uncertainty in Alaska's economic outlook. The waiver package which recently passed the U.S. House and Senate was believed to be a necessary prerequisite, but it did not ensure financial support for the line.

Residential Building

The tight financial conditions which have led to severely depressed national housing markets have been buffered in Alaska due to the activities of the Alaska Housing Finance Corporation (AHFC). The public corporation originally sold tax-exempt bonds to raise revenues. These revenues, plus state subsidies, allowed homes to be financed at below-market rates of interest. Because the tax exemption has been largely removed by changes in federal law, the corporation now relies extensively on state appropriations to subsidize low interest housing loans. Current rates are 12 3/8 percent on thirty-year, five percent down payment mortgages. This rate applies to the first $90,000 of financing, with the rate actually paid on the Corporation's bond sales applied to additional financing needs. By comparison, in early December the conventional mortgage commitment rate on new single-family homes with 25 percent down, 25-year term was 17.54 percent.

Building permit figures for sixteen Alaskan cities are compiled by the U.S. Department of Housing and Urban Development's Anchorage office. Figures show total units permitted as single-family, multiple-family, and mobile homes. In the majority of the cities, 1981 construction of single and multiple unit dwellings was up substantially from 1980. In the first nine months of 1981, the number of units authorized by permit in all cities increased 82 percent above the number issued for the entire previous year. Figures are shown by city in table XII.

It is also informative to examine the pattern of residential construction over time. Graph II shows the number of single and multiple family units *authorized by permit* over the past eleven years. Mobile homes are not included since a complete time series is not available. Also shown is the ratio of multiple to single family units in Alaska (based on permits), compared to the ratio for the United States (based on housing starts).

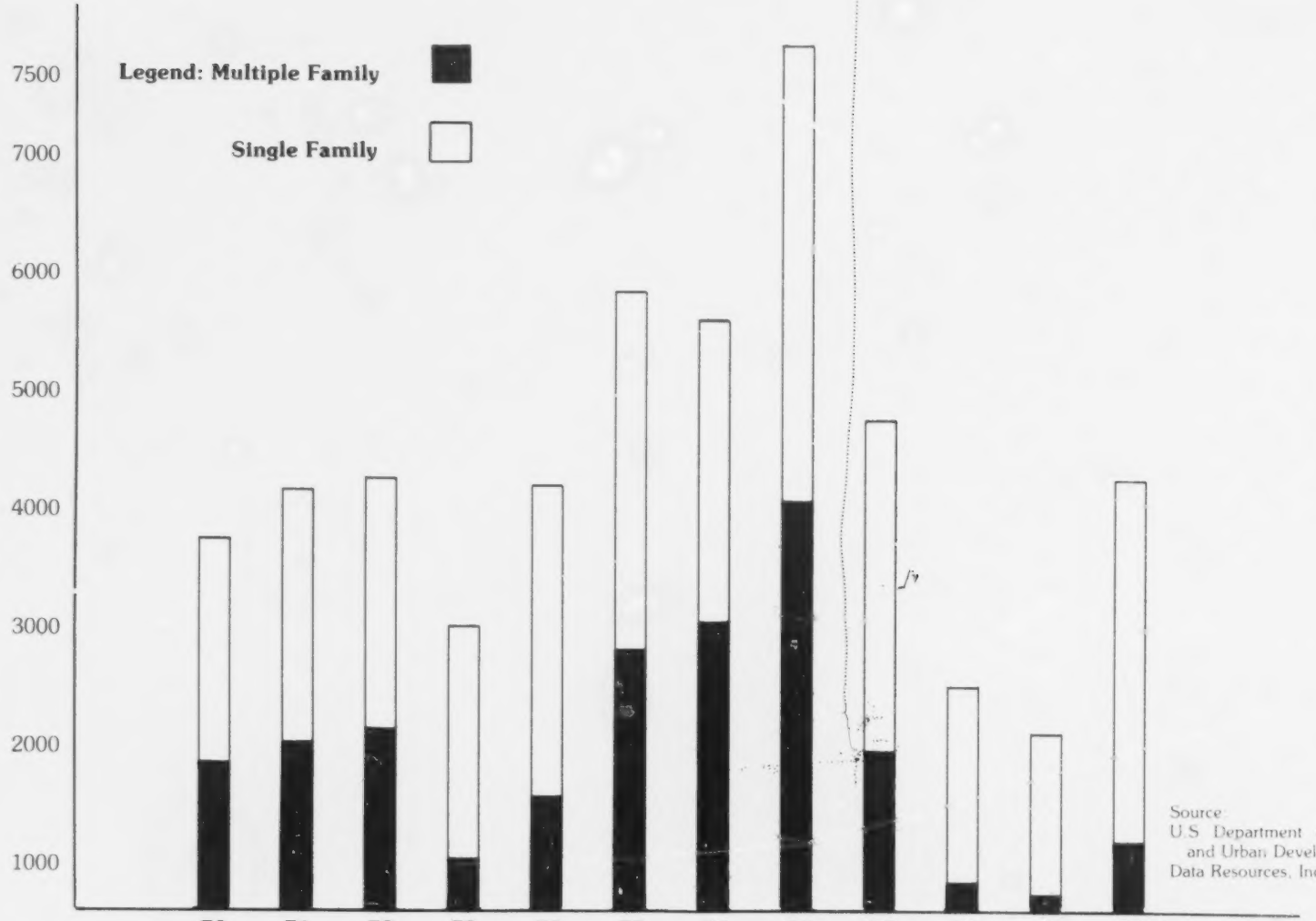
A full explanation of the pattern of housing permits over time would require more extensive study. It is likely that the pattern defies a simple explanation. Rather, a combination of factors would need to be examined. Because the multi-family and single-family markets appeal to different age groups of the population, an analysis would have to consider demographic changes. Pipeline anticipations, the impact of a transient workforce, and the post-pipeline investment of accumulated earnings likely played an important role. The role of government programs, both in the direct construction of multi-family housing and in the provision of subsidized rates of interest, most certainly are important. Finally, market interest rates and housing prices would need to be examined in addition to the investment and tax aspects of housing.

Table XII:
Housing Units Authorized
By Building Permit

	Single Family (Total Units)			Multi-Family (Total Units)		
	All 1980	9 mos 1980	9 mos 1981	All 1980	9 mos 1980	9 mos 1981
Anchorage	897	672	1912	301	276	829
Cordova	6	3	3	23	23	0
Fairbanks	345	306	490	32	18	126
Homer	29	23	35	14	14	2
Juneau	173	143	194	91	82	162
Kenai	36	31	38	0	0	0
Ketchikan	66	51	71	28	28	42
Kodiak	36	22	38	31	24	8
Palmer	23	12	2	0	0	0
Petersburg	16	14	14	0	0	26
Seldovia	4	4	1	0	0	0
Seward	2	0	2	0	0	0
Sitka	48	36	40	18	18	36
Soldotna	26	22	49	3	3	0
Valdez	20	20	32	12	12	0
Wrangell	5	5	10	0	0	0
Total	**1732**	**1364**	**2931**	**553**	**498**	**1231**

Source: U.S. Department of Housing and Urban Development

Graph II: Total Single and Multiple Family Dwellings Authorized by Building Permit in Alaska 1970-1981



	70	71	72	73	74	75	76	77	78	79	80	81 (9 mos)
Alaska	1.058	1.098	1.057	.577	.522	.945	1.283	1.234	.688	.579	.319	.420
U.S.	.763	.777	.801	.802	.510	.302	.316	.365	.410	.464	.518	.569

Ratios: Multiple Family Units ÷ Single Family Units

Plus Agricultural Services, Forestry and Fisheries

	($ thousands)							Average Annual Growth Rate
	1974	**1975**	**1976**	**1977**	**1978**	**1979**	**1980**	**74-80**
Labor and Proprietors' Income (LPI)	$179,700	$194,323	$245,127	$264,790	$292,888	$360,353	$438,750	16.04%
Industry LPI as % of State Total LPI	7.6	5.1	5.3	6.1	7.1	8.2	9.3	
National Industry LPI as % of National Total LPI	26.8	25.6	26.3	26.7	26.6	26.5	26.1	

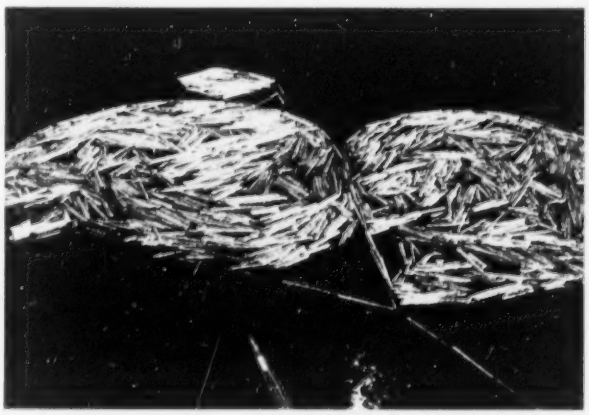
Forest Products

Employment in the Alaska forest products industry averaged 2,907 workers for the first eleven months of 1981. This is down from an average of 3,483 workers for a comparable period of 1980. The preliminary estimate of the 1981 timber harvest on all Alaska lands (see Table XIV) is 525 million board feet, down from an estimate of 585 million board feet in 1980. Both the harvest and employment levels were more depressed than in 1979, when the industry experienced a labor strike.

The Alaska experience in 1981 emulates the slump in the national forest products industry. A January 11, 1982 article in *Business Week* provides this outlook for the national industry:

"Beset by the deepest, most prolonged housing slump since the 1930s, the forest products industry is limping into 1982 in terrible shape. Its plants are running at only two-thirds capacity, its product prices are down 35% from 1979 peak levels, and most producers are reporting sizable operating losses."[1]

While the Alaskan industry is heavily dependent on Japanese as opposed to domestic markets, and while it produces pulp as well as lumber, the gloomy outlook seems to apply. Figures published by the Industrial Bank of Japan, Ltd., comparing January to July of 1981 with the comparable period one year earlier, shows housing starts down 11.3 percent, paper and cardboard production down 10.5 percent, and pulp production down nearly 16 percent.[2]



In terms of physical volume, well over 90 percent of Alaska's exported forest products have Japan as a final destination. The importance of the Japanese market to Alaska is shown by Table XIII, which highlights the dollar value of forest products exported to that country for selected years.

The timber industry developing on Native lands is also dependent on Japanese market conditions. Two southeastern Alaska Native Corporations, Sealaska and Cape Fox, ship between 60 and 70 percent of their timber production to Japan.

Timber harvest figures comparing 1980 and 1981 are given in Table XIV.

Table XIII: Wood Products; Alaskan Exports to Japan (Dollar Value by Year)

	1970	**1977**	**1978**	**1979**	**1980**
Forest Products - Total	$59,003,070	$141,337,118	$135,860,518	$236,369,549	$270,885,713
Logs	5,972,281	13,083,865	19,803,161	57,148,018	83,370,808
Rough Sawn Lumber	29,728,292	66,239,701	68,583,046	102,026,524	86,794,156
Pulp	22,879,941	55,260,003	46,198,907	73,224,115	89,069,070
Other Forest Products	422,556	6,753,549	1,185,404	3,970,892	11,651,679

Source: Alaska Statistical Review[3]
U.S. Department of Commerce[4]

The effects of the worldwide recession were evident in Alaska's forest products operations. Louisiana Pacific's Ketchikan mill was shut down early. Cape Fox Corporation did not actively log during 1981; their harvest figure of 1.5 million board feet was merely the result of clearing for access roads. Finally, the harvest from U.S. Forest Service lands was 14 percent below 1980 levels.

Table XIV:
Alaska Timber Harvest
(Millions of Boardfeet)

	1980		1981	
U.S. Forest Service:				
Tongass	452.1		386.6	
Chugach	1.6	453.7	2.0	388.6
Bureau of Land Management		N/A		N/A
Bureau of Indian Affairs		17.2		4.3
Native Lands:				
Sealaska Timber	31.0		85.0	
Cape Fox Corp.	21.3		1.5	
Kake Village Corp.	14.0	66.3	N/A	86.5+
State Lands		47.5		43.1
Total		**584.7+**		**522.50+**

Sources: Respective agencies. The BIA data are on a fiscal year basis (ending September 30).

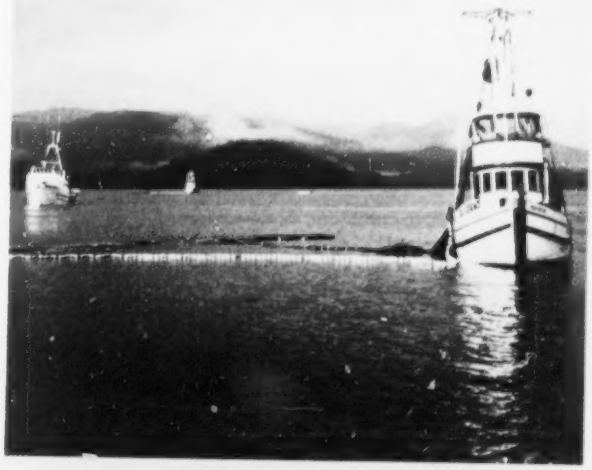
It should be noted that the Alaska National Interest Lands Conservation Act (ANILCA) contains provisions for maintaining timber supply from the Tongass National Forest at an average annual rate of 450 million board feet.

Timber Antitrust Case

An important legal case involving the Southeastern Alaska timber industry was decided in 1981. The case was a civil action brought under United States antitrust laws by Reid Brothers Logging Co. The defendants were Ketchikan Pulp Co. (KPC) and Alaska Lumber and Pulp Co. (ALP). U.S. District Court Judge Barbara Rothstein found that:

". . . KPC and ALP acted pursuant to an agreement, understanding, and concert of action between themselves, the purposes and the actual effects of which have been: to restrict and eliminate competition in all phases of the timber industry in Southeast Alaska; to refrain concertedly from competing against each other for timber or logs; to keep would-be competitors out of Southeast Alaska by cutting off their timber supplies through preclusive bidding and other means; to eliminate mill competition by acquiring ownership or control of the sawmills in Southeast Alaska, while expanding their own operations; to control and manipulate the log supply to the few surviving mills; to pay artificially low prices to independent loggers for logs and logging services; to eliminate purchase loggers from the field; and to attain and exercise monopoly power, . . . the power to set prices and exclude competition, in the timber industry in Southeast Alaska."[5]

As a result of the anticompetitive restraint of log prices, Judge Rothstein determined that Reid Brothers Logging suffered a total loss of profits on its Muddy River #3 holdings of $496,627. Under provisions of the antitrust laws, Reid Brothers was awarded treble damages or $1,489,881. The case is currently under appeal.



Fishing and Fish Processing

In 1981, the value of Alaska's commercial fisheries to fishermen (ex-vessel value) is expected to approach $792 million. The Alaska Department of Fish and Game projects a 49 percent increase over 1980, and a 231 percent increase over 1976. Groundfish revenues at $24 million are up 170 percent, and salmon revenues are up 72 percent from 1980 levels. Table XV shows the value of selected species over a six-year period.

An early price settlement at Bristol Bay, larger than expected returns of pink salmon, and milder seawater temperatures were notable events as salmon returns increased for the seventh consecutive year. Dwindling King and Tanner crab stocks, which reduced harvests of those species, and a 53 percent reduction in the shrimp catch combined to limit the shellfish fishery to its smallest (14 percent) increase since 1976. Among the few bright spots was a 155 percent increase in the Dungeness crab harvest, and significantly higher prices to fishermen for King crab. The herring harvest, at 91 million pounds, was the largest since statehood.

Important business developments for 1981 included greater contribution of joint ventrues to the groundfish fishery. The portion of the total commercial harvest attributed to joint venture caught groundfish rose from 77 percent in 1980, to 89 percent in 1981. While there are numerous variants, joint ventures are of two main types:

"One is an informal affair where a group of boats gets together with a foreign processor who agrees to buy so much fish 'over the side'.

The other more formal operation is one in which a joint venture company, owned by U.S. and foreign interests, purchases U.S. fish for processing aboard foreign vessels. In essence, the catchers and the processors are working for a third party, the joint venture company."[7]

Table XV: Value of Alaska's Commercial Fisheries to Fishermen (Ex-Vessel Value)

($ millions)

Species	1976	1977	1978	1979	1980[1]	1981[2]	PERCENT INCREASE 1981 OVER 1980	1981 HARVEST LEVELS[3] (millions of lbs.)
Salmon	118.0	177.7	215.0	350.0	281.3	484.9	+72.33	600.0
Shellfish	97.5	156.4	154.6	228.0	215.2	245.5	+14.08	226.5[4]
Halibut	20.5	17.1	17.2	32.9	13.5	19.3	+42.96	19.0
Herring	2.5	7.2	8.9	24.0	12.2	18.6	+52.46	91.0
Groundfish	1.1	1.6	3.6	5.1	8.9	24.0	+169.66	240.0
All Commercial Fisheries	239.6	360.0	399.3	640.0	531.1	792.3		
Percent Annual Increase over Previous Year		**50.25**	**10.92**	**60.25**	**-17.02**	**49.18**		

[1]Preliminary Data
[2]Preliminary field estimates
[3]This represents an extrapolation based on field estimates including the months of November and December.

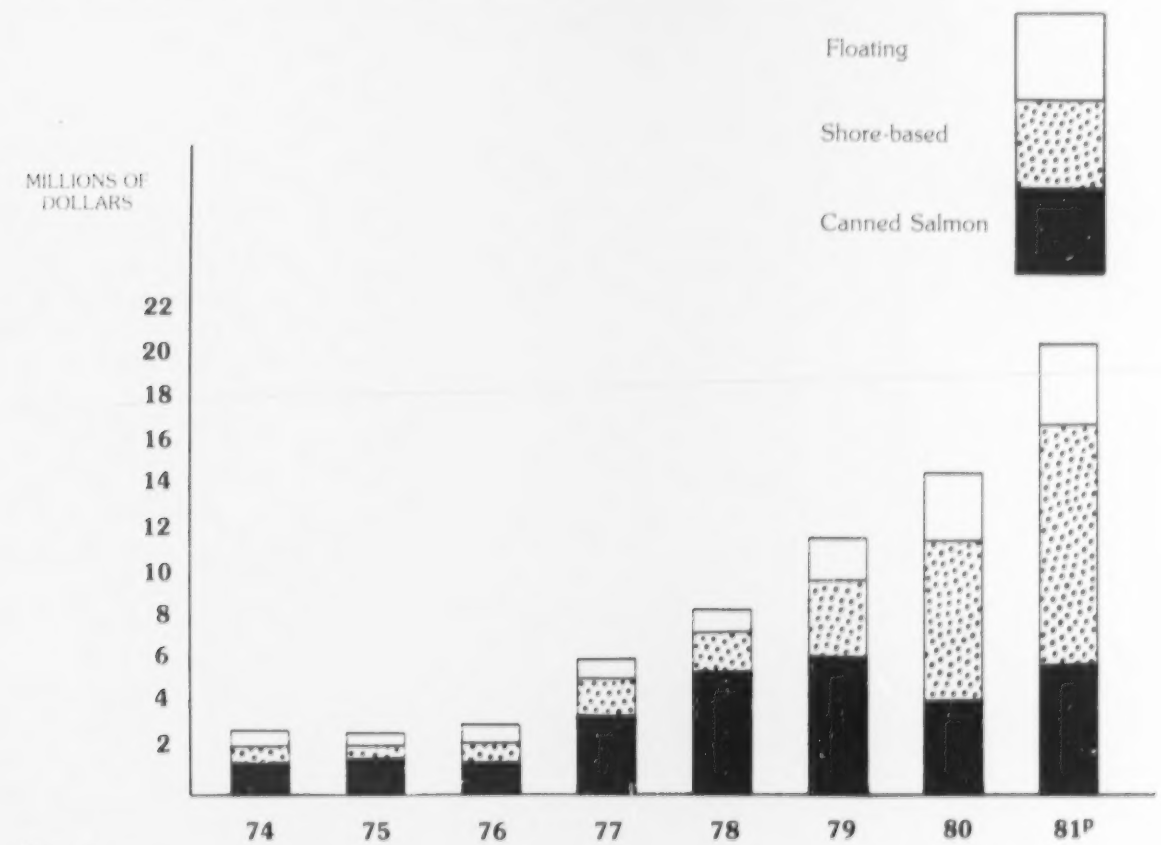
Source: Alaska Department of Fish and Game[5]

Taxes on Alaska's fisheries generate significant State revenues. The estimate for fiscal year 1981 is $20.7 million, an increase of 41 percent over 1980. In 1981, $3.3 million of these taxes were shared with local governments. Graph III shows the recent history of these collections.

With improved production, considerable attention is now being devoted to marketing, distribution, and development of seafood products. The Alaska Seafood Marketing Institute, privately established in 1980 and partially publically funded in 1981, has responsibility for product promotion and quality control. This task is complicated because there is no clear means to determine the amount of Alaska seafood products that enter various markets. This is due to the multiplicity of transportation modes, as well as packaging and labelling techniques. Products are off-loaded directly on to foreign *"tramper"* ships, flown to other areas of Alaska for processing, flown directly to retail markets, transshipped through Seattle, or canned and stored unlabelled in a central warehouse.

The dynamics of seafood markets further complicate the marketing problem. Larger portions of the catch are being frozen rather than canned, and the development and growth of retail seafood stores to serve the domestic markets are examples of changing circumstances. Because this domestic market is a possible growth area and an outlet for Alaskan production, it is interesting to examine how Alaskan seafood products have compared in price with close substitutes such as tuna, chicken and beef. Table XVI shows the price of various Alaskan products divided by the price of close substitutes. Prices are averaged over the five-year period 1973-77, and the four-year period 1978-81, to avoid distortions due to short-run market conditions. To illustrate the comparison format, take the case of canned red salmon. For the

Graph III: State Fisheries Tax Collections 1974-81



[P]Preliminary
Source: Alaska Department of Revenue

period of 1973-77, its average price was 44 percent above that of tuna. During the period of 1978-81, the differential had fallen to 5 percent. To summarize, the numbers indicate an improved relative price position for canned salmon, but a weaker position for higher priced steak products.

No firm conclusions can be drawn from such a cursory examination. The figures are simply included as an example of one aspect of the marketing problem.

In 1981, numerous fishery-related legal issues developed. Two issues with significant potential impact are examined, here.

The first issue concerns state jurisdiction over foreign vessel activity in Alaskan waters. Togiak herring fishermen successfully litigated a permit request which allows Japanese processing vessels to enter Alaska's internal waters and purchase raw herring. Citing state interdiction of federal prerogatives in the management of foreign commerce, a U.S. District Court judge ruled in favor of the herring fishermen and a Japanese longline-gillnet association. The decision had been appealed. Alaska's government and congressional delegation are examining the ramifications of this decision, and developing legislation which will focus on the State's right to manage and control Alaskan waters.

Table XVI:
Ratio: Alaskan Seafood Price
to Selected Substitutes

	Average $/lb.	Tuna		Chicken Breasts		Sirloin Steaks	
	78-81	73-77	78-81	73-77	78-81	73-77	78-81
Pink Salmon (canned)	2.20	1.05	.74	1.79	1.61	1.01	.76
Red Salmon (canned)	3.11	1.44	1.05	2.44	2.27	1.38	1.07
Halibut Steaks	4.84	1.40	1.63	2.37	3.52	1.34	1.66
Salmon Steaks	4.41	1.56	1.49	2.64	3.22	1.49	1.52

Source: National Marine Fisheries Service[9]

The second issue concerns the constitutionality of Alaska's limited entry program. A State Superior Court judge reversed criminal charges against two Bristol Bay fishermen convicted of harvesting fish without a limited entry permit. The argument for reversal rested on the constitutionality of the limited entry program. The court found that " . . . the inheritance and transferability provisions of the Act [limited entry] have the effect of causing rather than avoiding unjust discrimination among those seeking permits."[10]

The case must go to the State Court of Appeals before it can be heard by the Alaska Supreme Court. If the case makes it to the high court, it will be the fourth case challenging the constitutionality of limited entry. In 1976, the court overturned the original cutoff date to determine "points" for permit allocation; in 1980, the court upheld the application system which awarded "points" to prior year permit holders; currently, the court is considering a case which challenges time limits for making permit application, and the extent of solicitation among rural residents.

Anticipation of a strong fishing season in 1982 was tempered by news in January that the death of a Belgium man was attributed to canned Alaska pink salmon. The fear of botulism contamination has resulted in embargoes of the product in some foreign markets and recalls in the United States.

	($ thousands)							Average Annual Growth Rate
	1974	1975	1976	1977	1978	1979	1980	74-80
Labor and Proprietors' Income (LPI)	$237,550	$408,046	$441,212	$454,162	$519,987	$552,334	$589,750	16.36%
Industry LPI as % of State Total LPI	9.9	10.7	9.3	10.5	12.5	12.7	12.5	
National Industry LPI as % of National Total LPI	7.4	7.4	7.5	7.6	7.6	7.7	7.8	

Transportation

An important characteristic of Alaska's transportation system is its diversity. Long distances, unique geological features, rough climatic conditions and a variety of market relationships require the use of various transportation modes. Because of a limited highway system, air, water, and rail transport are of relatively greater importance to Alaska's economy.

A special study by the National Transportation Safety Board found a total of 756 air facilities in Alaska (520 airports, 42 heliports, and 194 seaplane bases). While comprehensive traffic figures are not available for these scattered facilities, published accounts suggest that 1981 was a good year for many carriers. Increases in the salmon harvest, tourism, mineral exploration and construction spurred air transport activities.

Passenger traffic through Anchorage and Fairbanks International Airports was up nine percent in the first nine months of 1981, compared to the same period one year earlier. Freight activity was up slightly at the two airports, with a 5.5 percent increase at Anchorage offsetting a decline of 8.4 percent at Fairbanks.

Table XVII: Alaska International Airports
1981 Compared to 1980

	ANCHORAGE		FAIRBANKS	
	Jan-Sept 1981	Jan-Sept 1980	Jan-Sept 1981	Jan-Sept 1980
Passengers[1]				
Intl Scheduled Airlines	1,003,306	967,158		
Intl Non Scheduled	118,480	86,670		
Domestic Scheduled	1,654,899	1,576,903		
Domestic Non Scheduled	98,331	54,565		
Total	**2,875,006**	**2,635,296**	**378,326**	**346,121**
Freight (lbs.)				
Intl Scheduled Airlines	18,148,801	23,693,222		
Intl Non Scheduled				
Domestic Scheduled	137,307,768	120,253,878		
Domestic Non Scheduled	80,218,716	79,554,977		
Total	**235,674,785**	**223,502,077**	**97,216,115**	**106,126,916**

[1]Includes passengers in, passengers out, and passengers in transit
Source: Statistical Reports — Anchorage, Fairbanks International Airports

In terms of 1979 tonnage, the Port of Valdez ranked fifth among U.S. ports, handling 65 million tons. By comparison, the combined ports of Seattle and Tacoma handled 35 million tons. Shipments of crude oil from Valdez averaged 1.5 million barrels a day in 1981, requiring about 53 ships each month.

Total cargo at the Port of Anchorage totalled 1,612,885 tons through November 1980, compared to 1,510,450 tons for that time period in 1981. The 6.4 percent decrease is a bit deceiving as general cargo showed a 12.6 percent increase to partially offset a 43.4 percent decline in petroleum shipments.

An alternative view of waterborne commerce and its importance to Alaska can be developed from figures provided by the Ports of Seattle and Tacoma. The Puget Sound area serves as a staging area for oil and construction equipment destined for the North Slope, and as a receiving area for Alaskan fishery products. Table XVIII shows inbound cargo from Alaskan ports to Seattle, and outbound cargo from Seattle to those ports for the ten-year period ending in 1979. The pattern of shipments depicts the buildup for the Trans-Alaskan pipeline and subsequent decline after completion of that project.

More detailed information covering both Puget Sound ports, and the commodity breakdown of cargo is available for 1979.

Cargo inbound to Seattle-Tacoma from Alaska totalled 448,562 short tons (2000 lbs.) in 1979. Major commodity categories follow with the number of short tons given in parentheses: fish and shellfish (171,111); lumber, pulp and logs (107,234); machinery except electrical (24,913); iron and steel scrap (30,133).

Cargo outbound from Seattle-Tacoma to Alaska totalled 1,784,819 short tons in 1979. Major commodity categories were groceries and beverages (299,765); lumber and plywood (123,885); refined petroleum and asphalt products (286,398); and fabricated metal containers and products (75,256).

The Alaska Railroad is owned and operated by the U.S. Department of Transportation. A proposal to have the State of Alaska assume responsibility for the line is presently under consideration. The railroad fiscal year ended on September 30, 1981. Total revenue for that year equalled $43,941,000, and total expenses were $40,631,000. Capital expenditures were $11,409,000. Comparative figures for major commodities and passengers are shown for 1980 and 1981 in Table XIX.

The dramatic increase in sand and gravel tonnage is primarily attributable to Anchorage area construction, including highway projects. Freight revenues increased for all major commodities reflecting higher tonnage and/or rates.

Table XVIII: Seattle Waterborne Trade With Alaska

	Receipts	Shipments	Total	Receipts as percent of total	Shipments as percent of total
	(Thousands of Short Tons)				
1970	162.6	715.7	878.3	19	81
1971	224.7	832.2	1,056.9	21	79
1972	168.7	1,054.8	1,223.5	14	86
1973	406.4	964.3	1,370.7	30	70
1974	312.9	1,495.9	1,808.8	17	83
1975	291.1	1,728.0	2,019.1	14	86
1976	408.3	1,477.3	1,885.6	22	78
1977	394.6	1,288.2	1,682.8	23	77
1978	417.6	1,380.7	1,798.3	23	77
1979	351.0	1,270.0	1,621.0	22	78
1979 over (under) 1978%	(15.9)	(8.0)	(9.9)		

Sources: U.S. Department of Army Corps of Engineers 1950-1975. Corps of Engineers tapes specially processed by the federal Maritime Administration.

Table XIX: Alaska Railroad
Revenue Tons of Major Commodities
(thousands of tons)

	1980	1981	% increase (% decrease)
Sand and Gravel	396	1,797	353.8
Bulk Petroleum	252	379	50.4
Coal	590	653	10.7
Iron, Steel Pipe and Fittings	37	83	124.3
Piggyback	92	113	22.8
Forest Products	109	101	(7.3)
Manufactured Iron and Steel	10	8	(20.0)
Cement	32	43	34.4
Machinery and Machines	16	28	75.0
Manufactures and Misc.	26	11	(57.7)
Other	181	146	(19.3)
Total	**1,741**	**3,362**	**93.1**
Passengers	150,678	161,068	6.9

Source: Alaska Railroad Operations Summary

Public Utilities

The Alaska Power Administration collects and publishes comprehensive electric power statistics for the State. Recently, statistics for the two decades from 1960-80 were published. A brief summary of selected statistics shows:

1) Total installed capacity = 1956 MW. This is composed of hydro (10%), gas turbine (64%), steam turbine (8%), and diesel (19%).

2) Since 1960, the average annual growth of installed capacity has been 8.0%/year. Since 1970, growth has been slightly faster at 9.9%/year.

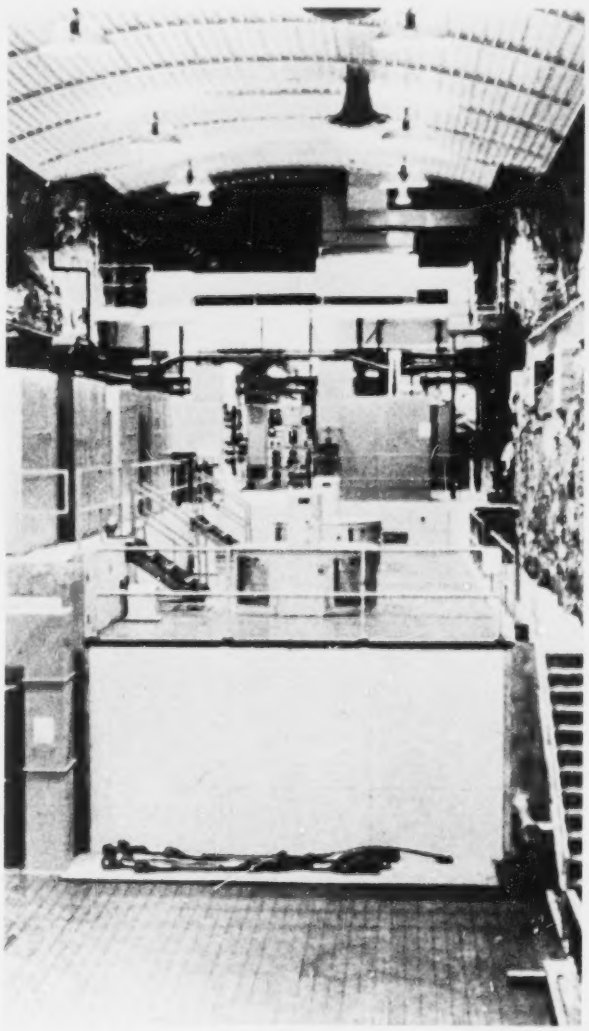
3) The average use by residential customers is 10,313 KWH/customer/year. Use has grown by 4.5%/year since 1960, and 3.6%/year since 1970.

4) The average cost per KWH is 5.1¢. This compares to an average U.S. Cost of 5.4¢. The range from low to high is 3.1¢/KWH to 42.4¢/KWH.

Several bills passed by the 1981 Alaska Legislature will have substantial influence on future power supplies in the State. Senate Bill 26 (SLA 81, Ch 90) appropriated $529 million for a variety of energy related uses: major power project construction, transmission lines and distribution systems, feasibility and reconnaissance studies, rural electrification, and alternative energy and conservation projects. A related piece of legislation, Senate Bill 25 (SLA 81, Ch 118), establishes a Power Development Fund. This mechanism allows general funds to be expended to finance power projects from reconnaissance study stage through construction and operation. The State of Alaska would own the projects, but the law requires the Alaska Power Authority to contract with local utilities for operation. The Power Development Fund includes money appropriated, plus those revenues collected from the sale of power that are not required by law to be deposited in the General Fund.

The Legislation contains this important language:
"If, by July 1, 1986, the Legislature has not appropriated at least $5,000,000,000 to the fund, in addition to appropriations to the fund of interest earned on money in the fund, the authority shall, beginning on that date, establish and maintain a single wholesale power rate applicable to all power projects that it has acquired or constructed under the energy program in Alaska."

The laws in present form commit a substantial portion of anticipated state revenues to hydroelectric power development. This is particularly the case given that estimates of State revenues have been significantly reduced. At the time of this writing, significant changes have already been made in these laws.



($ thousands)

	1974	1975	1976	1977	1978	1979	1980	Average Annual Growth Rate 74-80
Labor and Proprietors' Income (LPI)	$526,981	$897,178	$1,093,546	$1,147,030	$1,103,355	$1,161,500	$1,271,000	15.8%
Industry LPI as % of State LPI	22.0	23.6	23.2	26.5	26.5	26.7	26.9	
National Industry LPI as % of National Total LPI	32.3	33.4	33.5	33.3	33.4	33.7	34.6	

Wholesale, Retail Trade, and Services

Wholesale, retail trade, and services are important elements in Alaska's support sector. The bulk of an Alaskan's day-to-day transactions are with the food stores, auto dealers, doctors, dentists, and other professional occupations which comprise these categories of activity. Additionally, much of the impact of the tourism industry affects these industries.

Because these categories contain numerous and diverse lines of business, it is difficult to make general statements about conditions in 1981. Preliminary employment figures show moderate growth through the first eleven months of 1981, with wholesale trade up 8.7 percent, retail trade up 5.4 percent, and services up 3.5 percent from 1980. Table XX shows longer term trends in these industries and compares employment changes with national figures:

Table XX: Employment for Alaska and the United States: 1970 - 1980
– Average Annual Percentage Change –

	ALASKA	U.S.
Total Employment	6.4%	2.5%
Wholesale and Retail Trade	7.0%	3.1%
Services	10.2%	4.5%

Sources: Data Resources, Inc.
Alaska Departments of Labor and Commerce

The 1970 data are not strictly comparable to 1980 data in some industries because of redefinition. These distortions should be small in most cases.

To summarize, during the period of 1970-1980, the annual rate of increase in both trades and services has exceeded the rate of change in Alaska's total employment, while more than doubling the national rate.

While somewhat dated, the 1977 Economic Census provides some information of interest regarding the trade and service industries. The U.S. Department of Commerce develops these reports every five years from a combination of questionnaires and administrative data. The major advantage of these reports is their comparability to national figures. A major disadvantage is that the figures for Alaska are commonly plagued by small sample size and non-disclosure requirements.

Available figures appear to indicate that the wholesale trade industry is relatively undeveloped in Alaska. In 1980, only 3.5 percent of labor and proprietor's income was generated by Alaskan wholesalers, compared to 6.8 percent for the national counterpart. Also, the 1977 census figures show the ratio of wholesale to retail sales to be considerably smaller for Alaska.

Possible explanations for the relatively lower in-state wholesale activity include: economies of scale in wholesaling may be large relative to Alaska's market and large purchasing industries such as maufacturing and agriculture are comparatively small in Alaska. In any event, cities such as Seattle and Portland are definitely serving as wholesale centers for Alaska.

Retail Trade

Of the major secondary industries in retail trade, food stores showed the largest percentage increase in employment, 14.3 percent over 1980. Eating and drinking establishments showed a 6.3 percent increase, while the general merchandise group of stores showed employment growth of only 2.0 percent. The 1977 Census of retail trade breaks down sales by type of establishment. Chart I portrays retail sales in per capita terms for 1972 and 1977. In examining the percent change in the per capita figures, realize that population rose by 27.5 percent and the general price level rose by 53.1 percent over that period. Thus, if a group of retail establishments sold $100 per capita in 1972, it would have to sell $195 in 1977 (a 95 percent change) to have the same real sales and population penetration as it had in 1972.

Table XXI: Wholesale Compared to Retail Trade: Alaska 1977
Sales ($ thousands)

	ALASKA	U.S.
Wholesale Trade	$1,562,699	$1,258,400,000
Retail Trade	1,830,668	699,700,000
Ratio	.854	1.798

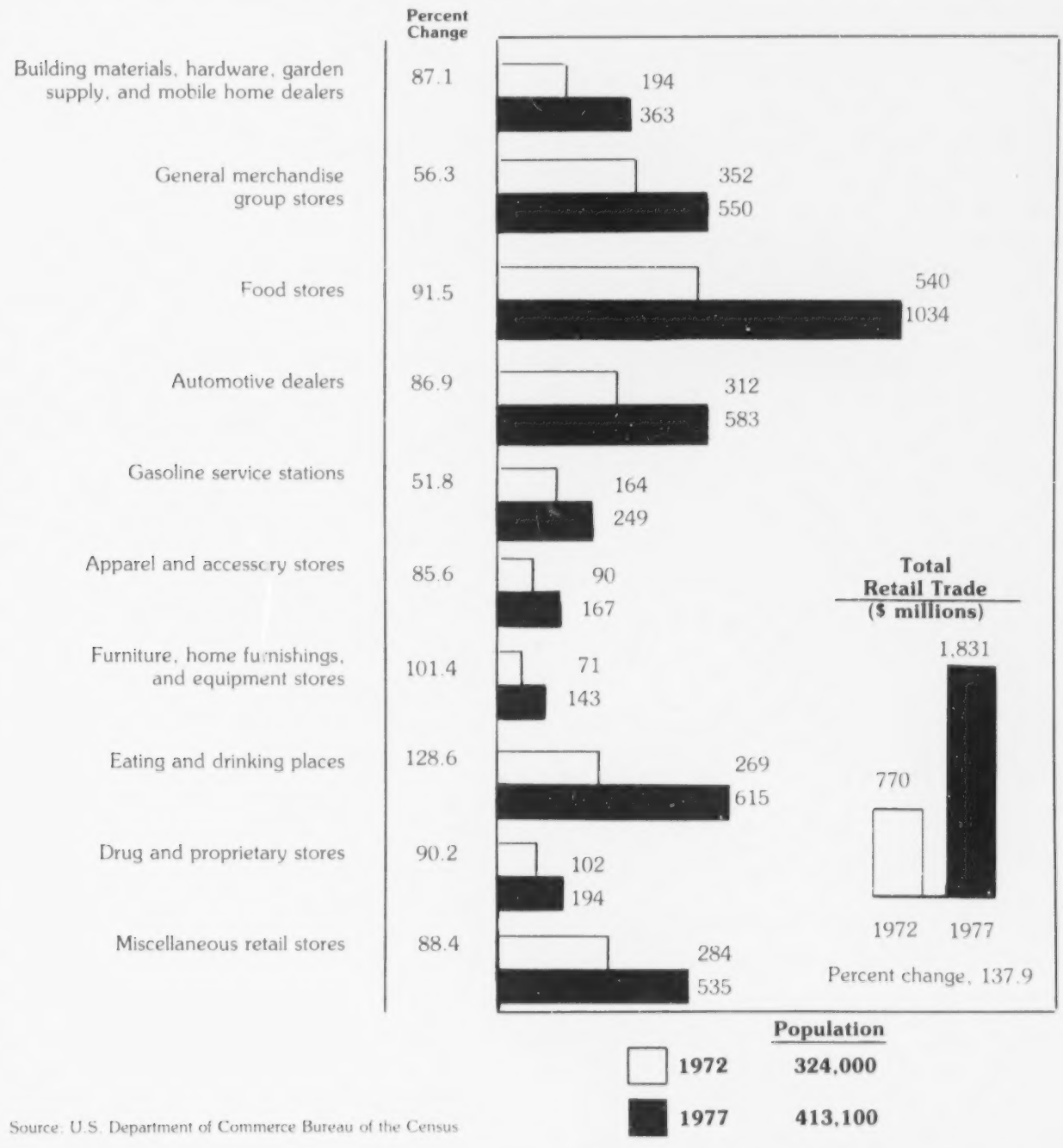
Source: U.S. Department of Commerce

Services

Employment in services rose by 3.5 percent in 1981, compared to the average for the first eleven months of 1980. Firms in this category provide a variety of services to individuals, businesses, government establishments and other organizations, and are typically small unincorporated businesses. The 1977 Census figures for Alaska confirm this, as sole proprietorships (3317) and partnerships (376) account for about 85 percent of total service establishments (4352).

In 1977, business services (26.1 percent), hotels and other lodging services (18.5 percent), engineering, architectural and surveying services (14.0 percent) defined the major activity groups. The growth of real state and local government spending, and total employment would suggest continued predominance of these activities. The United States has experienced a shift from manufacturing to service industries, with over one-half of the nation's workers now employed in service industries. Table XX confirms that the long-term trend in Alaska follows a similar pattern.

Chart I:
Alaska Per Capita Retail Sales of All Establishments 1972 to 1977



Source: U.S. Department of Commerce Bureau of the Census

Tourism

The tourism industry includes a combination of activities grouped into various industries such as retail trade, services, and transportation. Due to this amalgamation, it is not possible to get a precise handle on the impacts of tourism. Services such as hotels cater to business and government travellers, as well as tourists. Further complication occurs because business trips may be combined with vacation activities.

One source of information, the *National Park Statistical Abstract*[5] for 1980, gives an indication of visits to national parks. The National Park Service collects monthly statistics. Because total visitation figures include non-recreational entries, such as trades people, recreational visits better indicate tourism activity. Table XXII shows a brief history of such visits to Alaska's national parks.

Preliminary reports indicate that figures for Denali National Park rose again in 1981. This is consistent with the State Division of Tourism numbers, which estimates that 630,000 people visited Alaska in 1981, an 11 percent increase over 1980.

Arts

Artists and craftsmen make a significant contribution to retail activity in the state. Small shops, art galleries and community trade fairs provide outlets for artistic products. Also, local theatrical groups provide entertainment in the form of plays and stage shows.

Two major government sources provide impetus for artistic activity. First, state law requires that at least one percent of the construction costs for public buildings be used to purchase or commission art work for all new facilities. The other major source for arts funding is the Alaska State Council on the Arts. In fiscal year 1981, over $3 million in state and federal funds were granted to individuals and organizations involved in performing, visual, media, and literary arts. Programs sponsored include: artists in the schools, Alaskan Shows to Go, Mini-Workshop, and the Alaska Repertory Theater.

The effect of this support is the maintenance of an active arts community in Alaska. The arts community is an important contributor to both the tourism and entertainment industries, and to the cultural richness of the State.

Table XXII: Recreation Visits to National Park Service Areas — Alaska (thousands)

	1977	1978	1979	1980
TOTAL	364.8	398.3	422.0	395.9
Denali		223.0	251.1	216.4
Glacier Bay		81.5	91.0	95.0
Katmai		11.3	10.7	11.8
Klondike-Goldrush[1]			37.6	48.4
Sitka[2]		82.4	69.2	72.7

[1]Visits not included in total figure. Park is listed in both Alaska and Washington State.

[2]Figures for 1979 and 1980 are not strictly comparable, due to change in counting procedures.

Source: National Park Statistical Abstract

Banking, Insurance, and Real Estate

	($ thousands)							Average Annual Growth Rate
	1974	1975	1976	1977	1978	1979	1980	74-80
Labor and proprietors' Income (LPI)	$ 65,525	$ 96,436	$130,294	$158,610	$178,030	$182,108	$191,250	19.55%
Industry LPI as % of State Total LPI	2.7	2.5	2.8	3.7	4.3	4.2	4.0	
National Industry LPI as % of National Total LPI	5.1	5.2	5.5	5.7	5.8	5.8	6.1	

Financial literature in 1981 made frequent use of such terms as "volatile, crisis, and perplexed". Because Alaska's financial institutions are closely linked to national and world markets, a brief review of these will provide a helpful perspective. Three themes have been predominent: 1) current Federal Reserve policies on monetary growth; 2) federal deficits and impacts on financial markets; and 3) deposit deregulation and financial innovation.

Federal Reserve Policies

The Federal Reserve System adopted new operating procedures in October, 1979. The new game plan emphasizes the control of bank reserves, and de-emphasizes control of the cost of bank reserves (the federal funds rate). The Federal government now tries to keep the growth of monetary aggregates (primarily M1 and M2) within specified target ranges through variations in the supply of available reserves. A result of the new policy has been greater volatility in short-term interest rates. This volatility, combined with fears about federal deficits, has contributed to stubbornly high interest rates, despite an improved inflation outlook.

Federal Deficits

Considerable concern has been voiced over the combined impact of restrictive monetary policy and burgeoning federal budget deficits. The deficit, estimated to be near $100 billion in the current year, could increase further due to a prolonged recession, planned tax cuts, and resistance to additional budget reductions. The Morgan Guaranty Trust Company has analyzed the supply of and demand for credit in 1982. That analysis suggests that net credit extension will rise by $29 billion (6%). Federal government and agency issues will increase $34 billion (26%), while borrowing outside the federal sector will decline by $5 billion (−1.5%)[1]. The current recession will reduce private sector demands and facilitate financing of this year's deficit. However, there is a fear that the credit requirements of a recovering economy will eventually collide head-on with federal credit needs.

Deposit Deregulation and Financial Innovation

The Depository Institutions Deregulation and Monetary Control Act of 1980 embodied two goals. First, the Act enhances the Federal Reserve's ability to implement monetary policy through the imposition of broader, more uniform reserve requirements. Second, the Act promotes greater competition among providers of financial services.

With competition, rates paid to savers will be market determined, and will more accurately reflect the return on the investment of deposited funds. For instance, under the new law, all types of depository institutions can offer interest-earning checking accounts. Negotiable order of withdrawl (NOW) accounts, introduced on a nationwide basis in January 1981, provide a means by which savings and loan associations can compete with commercial banks for checking deposits. The law requires that interest rate ceilings be phased out over a six-year period. Currently, the ceiling on passbook savings is 5¼ percent at banks and 5½ percent at thrift institutions. Table XXIII compares the regulated rate with market rates earned on other investments.

These changes will have profound effects on the operations of all financial institutions. All things equal, rates paid to savers will rise as ceilings are removed. As the cost of funds rises for institutions, operating margins will narrow. Because many institutions are already in financial peril, there will be a shakeout period as institutions fail or merge into more efficient operations. NOW accounts illustrate the process. Interest costs have risen for banks because a high proportion of NOW balances (which pay a ceiling interest rate of 5¼ percent) have come from zero interest checking deposits.

Table XXIII also shows that since 1965, with the exception of a brief period in the early 1970's, open market interest rates have exceeded the ceiling rate on passbook savings. One interpretation is that money market funds are a vehicle which allows small savers to circumvent rate ceilings. These funds provide high earnings plus the convenience of withdrawl. Before dropping late in the year, deposits in these funds experienced growth for thirty consecutive weeks. This spectacular growth contrasts sharply with the slow growth of deposits at banks and thrifts. In high rate periods, rate-sensitive consumers tend to move toward open market securities, causing disintermediation at all deposit institutions. This outflow of deposits was greatest at thrift institutions, which partially explains the crisis in home financing.

Alaskan Financial Institutions – Private

At this juncture in Alaskan economic history, financial institutions provide an interesting study. National developments show that these institutions operate in a volatile environment which is becoming more competitive. In addition to these external considerations, Alaska's financial institutions operate in markets where the State of Alaska has assumed an increasing role. The evolution of these institutions given these considerations will be a topic of considerable interest through the 1980's.

Banks

On September 30, 1981 total deposits with Alaska's commercial and mutual savings banks were 6.4 percent above the level recorded on the same date one year earlier. Governmental deposits were down 11.1 percent, while non-government deposits showed an increase of 11.8 percent. Total demand deposits rose 1.7 percent, while total time deposits rose by 9.8 percent, compared to those one year earlier. Adjusted for inflation, total deposits declined by about 2 percent. The asset side of the Consolidated Statement of Condition of Banks in Alaska showed net loans and discounts up 10 percent. This changed the pattern established the previous two years, when deposit growth outpaced loan activity by a substantial margin.

Savings and Loan Associations

Over the twelve months ending December 31,1981 deposits at Alaska's four federally chartered savings and loan associations grew (322,677,000 to 407,877,000) a phenomenal 26.4 percent. The increase of $82,200,000 is composed of an increase of $92,493,000 in large certificates of deposits ($100,000 or more), a slight decrease of $187,000 in other savings deposits, and a substantial decrease of $7,106,000 in regular passbook savings accounts. The July, 1981 issue of the Alaska Economic Information and Reporting System reported that a sizeable portion of the jumbo certificates were held by the Municipality of Anchorage. The deposits represented both an Anchorage General Fund surplus and bond proceeds awaiting disposition. Slightly over one half of the $237,201,000 in deposit at the end of December, 1981 were attributed to the municipality. In addition, beginning in February, 1981 the Alaska Permanent Fund Corporation began the acquisition of $49,000,000 in large denomination Certificates of Deposit from state savings and loan institutions. Therefore, the increase in deposits can be mainly attributed to these two sources.

Lending activity at savings and loan associations increased substantially over 1980. In 1981, total loans closed were $145,389,000, compared to $82,641,000 the previous year. Most of the mortgage loans included in this aggregate were subsequently sold to the Alaska Housing Finance Corporation.

Table XXIII: Comparison: United States Market vs. Regulated Interest Rates, 1965-1981

Year	Percent 3-month T-Bill	Bank Passbook Ceiling Rate	Money Market Funds
1965	3.95		
1966	4.85	4.0	
1967	4.30	4.0	
1968	5.33	4.0	
1969	6.66	4.0	
1970	6.39	4.5	
1971	4.33	4.5	
1972	4.07	4.5	
1973	7.03	4.5	
1974	7.83	5.0	8.01
1975	5.77	5.0	6.36
1976	4.97	5.0	5.25
1977	5.27	5.0	5.60
1978	7.19	5.0	8.10
1979	10.07	5 or 5.25	11.12
1980	11.43	5.25	12.89
1981*	14.00	5.25	15.61

*Average of three quarters

Sources: Data Resources, Inc.
Federal Reserve Bank of San Francisco

State of Alaska Financial Programs

Alaska Permanent Fund

The Permanent Fund was established by a constitutional amendment approved in 1976. Certain mineral-based revenues (lease rentals, royalties, royalty sale proceeds, federal shared-mineral revenues and bonuses) form the base for these contributions. The contribution rate was 25 percent originally, but has been raised to 50 percent on mineral leases issued after December 1, 1979 (for bonuses, the new rate became effective after February 15, 1980). In addition to these mandatory contributions, appropriations can and have been made to the fund. Table XXIV shows contributions through November, 1981. Table XXV shows the composition of fund investments.

Alaska Industrial Development Authority (AIDA)

AIDA was created by the Alaska Legislature in 1967, but did not become active until 1978. The Authority operates four industrial development bond programs. The bonds are tax-exempt and are issued to finance projects of private firms. A fifth program purchases federally guaranteed loans in amounts up to $500,000.

Bonds secured by private firms and project revenues were the initial activity. Fifteen projects were funded with $120,500,000 under this program through October, 1981. Bonds secured by the full credit of the Authority were issued in 1981. The two issues cover 216 projects and total $75,145,000. By December 1, 1981 AIDA had also purchased the federally guaranteed portion of thirteen business loans for $2,202,300.

Table XXIV: Alaska Permanent Fund Contributions

Fiscal Year	Contributions	Cumulative
1977 (Mar-Jun)	$ 3,956,711	$ 3,956,711
1978	50,443,256	54,399,967
1079	83,907,074	138,307,041
1980	344,785,940	483,092,981
1981	1,285,102,775	1,768,195,756
1982 (July-Nov)	902,680,723	2,670,876,478

Source: Alaska Department of Revenue

Table XXV: Alaska Permanent Fund Composition of Investment Holdings

ASSET TYPE	Dec. 31, 1980	Dec. 31, 1981
Marketable Securities Account		
Cash Deposits		
Savings	59,961	56,886
Purchased Interest Receivable	131,819	21,319
Repurchase Agreements	0	6,600,000
Short Term Issues[1]	645,656,137	2,669,725,979
Intermediate/Long Term Issues[2]	626,766,190	225,996,161
Certificates of Deposit		50,000,000
Loans and Mortgages		8,269,242
Total Investment Holdings	**$1,272,614,107**	**$2,960,669,588**

[1]Includes certificates of deposit, commercial paper, banker's acceptances, U.S. Treasury bills, notes, and bonds.
[2]Includes U.S. Treasury notes and bonds, federal agency securities and corporate bonds.
Source: Alaska Permanent Fund Corporation

Alaska Housing Finance Corporation (AHFC)

AHFC was created in 1971 to assist low and moderate income families to secure home financing. Over the years, AHFC's scope of activities has broadened. From an initial emphasis on federally insured and guaranteed mortgage purchases, the Corporation has moved into the purchase of conventional loans. This required an expanded state financial involvement in the insurance program, and in the establishment of capital reserve for bonds. Major changes also occurred in 1980 when in-

Table XXVII: Assets of Alaska's Private Deposit Institutions as of 12/31/80

Institution	Total Assets
Credit Unions	$ 539,019,646
Commercial and Mutual Banks	2,539,847,000
Savings and Loan	410,792,000

Source: State of Alaska, Division of Banking, Securities and Corporations

Chart II: AHFC vs. FNMA
Actual Principal and Interest Payments - 1981
(Based on $90,000 mortgage)

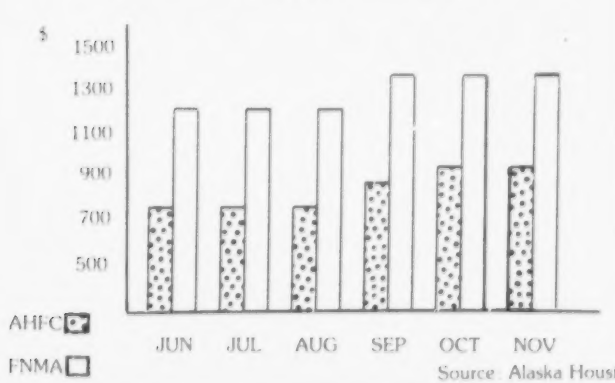
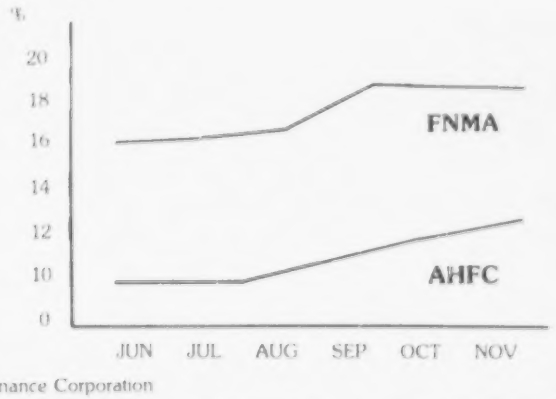


Chart III: Interest Rates in 1981



Source: Alaska Housing Finance Corporation

Table XXVIII: Alaska Investments of Insurance Companies ($ thousands)

Type of Investment	1979	1980
Alaska - State G.O. Bonds	$ 74,656	$ 134,076
Alaska - Political Subdivision Bonds	109,957	94,296
Alaska - Special Revenue Bonds	576,040	638,657
Alaska Industrial Bonds	1,000,238	1,045,874
Alaska Public Utilities	66,450	70,285
Alaska Real Estate	407	309
Alaska Mortgages	138,885	195,301
Common Stock and Bond Investments - % Allocated to Alaska Properties	247,400	257,275
U.S. Government Bonds and Government Agencies	15,234	3,451
Alaska Policyholders Loan and Liens	2,981	5,175
Bank Deposits - Savings and Loan Accounts	576	1,629
Total	$2,232,815	$2,446,328

Source: State of Alaska, Division of Insurance

come constraints on borrowers were removed, and new programs were initiated to finance mobile homes and rural mortgage demands. Mortgage loan rates were set by statute. To the extent that bond rates exceeded the loan rates, state involvement in subsidizing mortgage interest costs grew. This was aggravated in 1981 when tax exemption of most newly issued mortgage bonds was lost as a result of the Mortgage Subsidy Bond Tax Act of 1980, which increased the Corporation's cost to issue bonds. Additional pressure was put on state government when interest rates climbed dramatically to record levels in 1981, thus increasing the required subsidy. As a result of these pressures, legislation in 1981 was enacted to repeal the fixed mortgage loan rates and to control the spread between the bond rate and the loan rate, thereby better controlling subsidy levels.

As a result of these developments, today AHFC is far different from when it was created. AHFC is currently responsible for the financing of more than ninety percent of all single-family home purchases in Alaska. This means that a large portion of state resources has been poured into AHFC's activities during the past two years. As of August 31, 1981 the Corporation held 21,508 mortgages, totaling about $1.5 billion, including mortgages transferred by appropriation.

Table XXVI shows bonds issued under the Corporation's programs. Corporation records show that in the twelve-month period from September, 1980 through August, 1981 AHFC purchased over $700 million in mortgages. As a rough gauge of the actual and potential impact of these programs on Alaska's financial system, it is helpful to present total asset figures for private deposit institutions. The most recently completed figures are for 1980 as shown in Table XXVII.

Real Estate

Discussions of construction and financial institutions provide necessary background information on the Alaska real estate market in 1981. Briefly, the figures indicate much stronger activity in 1981 over 1980. Also, the pace of home building is far stronger in Alaska than in the troubled national industry. Below-market interest rates and other favorable terms provided under Alaska Housing Finance Corporation programs have sheltered the local industry from affordability problems that plague activity elsewhere. A comparison of rates and monthly mortgage repayment burden under conventional Federal National Mortgage Association (FNMA) and AHFC programs are shown in Charts II and III.

Insurance

Insurance companies have been making sizeable investments in Alaskan securities. Table XXVIII provides the most current figures available.

Table XXVI: AHFC Bond Issues Since Inception to 8/31/81 ($ thousands)

Program	Year Issued	Mature	Original Amount	Outstanding on 8/31/81
Housing Mortgage Program	1972-1975	1981-2005	$ 109,500	$ 100,230
Insured Mortgage Program	1975-1980	1980-2011	983,625	971,935
Insured Rural Mortgage Program	1979-1980	1981-2010	10,000	9,975
State Assisted Mortgage Program	1981	1994-2001	450,000*	450,000*
			$1,553,125	**$1,532,140**

*Includes $300 million issued between 8/31/81 and 10/28/81.

Source: Alaska Housing Finance Corporation

	($ thousands)							Average Annual Growth Rate
	1974	1975	1976	1977	1978	1979	1980	74-80
Labor and Proprietors' Income (LPI)	$881,722	$993,659	$1,089,832	$1,178,557	$1,299,407	$1,388,248	$1,448,750	8.63%
Industry LPI as % of State Total LPI	36.9	26.1	23.1	27.1	31.2	31.9	30.7	
National Industry LPI as % of National Total LPI	17.5	18.2	17.8	17.2	16.6	16.0	15.9	

1981 marked the beginning of a transition period for government in Alaska. Federal budget cuts, lower revenues, and the need to reduce future deficits have forced program cutbacks for both state and local governments.

The Economic Recovery Tax Act of 1981 will affect both tax collections and the cost of state and local borrowing. Softness in world petroleum markets dramatically reduced state revenue expectations, while realized revenues were flowing into ambitious capital improvement programs at both state and local levels. A proposed state spending limitation was approved by the Alaska Legislature and will be voted on by the Alaska people in November, 1982. Consequently, a combination of circumstances indicates that government influence on the Alaskan economy will peak in the early 1980's.

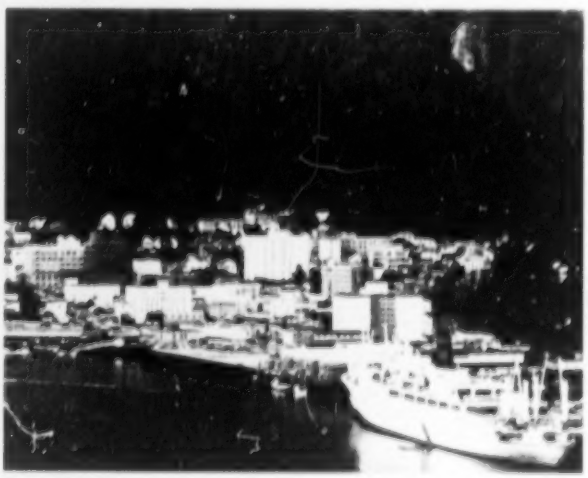
Nationally, federal grants-in-aid to all state and local governments rose by $37 billion, or 676 percent, between 1948 and 1975; such grants represented 23 percent of state and local revenues. In real terms, the amount of aid increased between 1975 and 1980 before dropping by slightly more than 11 percent in 1981. An early victim of the cuts was general revenue sharing. From a level near $10 million, which the State of Alaska received in fiscal year (FY) 80, aid fell to $2.3 million in FY81 and to zero in FY82.

A major thrust of the federal plan was to decrease grant-in-aid programs, and reduce restrictions on the use of that aid. Fifty-seven categorical programs were combined into nine block grants. The U.S. Congress passed a third temporary funding bill on December 11, 1981. This continuing appropriation bill covers federal FY82, or until the regular appropriation bill is enacted. Under this appropriation, the nine block grants would receive $9.5 billion in FY82, a decrease of about 13 percent from FY81. Alaska will receive a pro-rated portion of available funds, which implies a pro-rated share of program cuts. At the time of adjournment, the latest continuing appropriation bill covered only three of thirteen appropriation areas. Consequently, it will be well into 1982 before the full effects of federal budget cuts on particular programs are clearly understood.

The Economic Recovery Tax Act of 1981 will also affect the operation of state and local governments. Impacts stem from the connection between federal and state tax systems, and influences on the market for state and local debt issues.

An Accelerated Cost Recovery System replaces the present system of depreciation and is retroactive to January 1, 1981. Capital assets are grouped by type into four classes, with recovery periods of three, five, ten, and fifteen years. The investment tax credit is six percent for assets in the three-year class, and ten percent for other assets. Current Alaska tax statutes provide for automatic adoption of federal depreciation charges. Unless amended, liberalized depreciation provisions would reduce non-petroleum corporate taxes by an estimated eleven percent per year for the next three years. Petroleum revenues would not be influenced by federal tax law changes.[1]

In addition, the Economic Recovery Tax Act of 1981 also lowers maximum personal tax rates and creates the tax-exempt all-saver's certificate. The reduction of marginal tax rates from 70 to 50 percent on January 1, 1982 makes the tax-exempt issues of state and local



governments less attractive to many investors. Because investors are guided by after-tax returns, this reduces the advantage of state and local issues over private offerings and will, other things being equal, raise borrowing costs. The tax-exempt all-saver's certificate will directly compete for funds with other tax-exempt instruments, again, putting upward pressure on rates paid by state and local governments. A Municipal Finance Officers Association study estimated that yields on state and local debt could increase 220 basis points as a result of the certificates.[7] In late December, the rate on AAA-related municipal bonds was 13.93 percent, nearly 437 basis points above the rate one year earlier.

A global recession, combined with price-induced conservation measures, led to reduced world oil demand in 1981. Further reductions are likely in 1982. Because petroleum revenues comprise about 90 percent of all state government receipts, lowered expectations will result in smaller appropriations in FY83. The pattern of recent appropriations is shown in Table XXIX.

The relative magnitude of these appropriations can be appreciated when compared to the total of personal income in Alaska. That total averaged $5.6 billion at an annual rate during the first three quarters of 1981.

Table XXIX: Alaska Appropriation of General Funds Fiscal Years 1980-83 ($ millions)

	FY80	FY81	FY82
Operating	$1034.8	$1596.5	$1964.3
Capital	100.6	707.4	1380.0[3]
Cash Loans	0.0	475.6	490.8
Permanent Fund[1]			
Contribution	0.0	900.0	1400.0[5]
Other	0.0	1281.0[2]	0.0
Total	**$1135.4**	**$4960.5**	**$5259.1[6]**

[1]Figures cover appropriations to Permanent Fund in excess of constitutionally mandated appropriations.

[2]FY80 cash loans are included in capital.

[3]Includes Native claims payment ($292.6), income tax credits ($185.5), rainy day fund ($350.0), and appropriation of loans from state portfolio ($462.0).

[4]Figure does not include appropriations for future years which were made during the 1981 Legislative session ($209.2).

[5]Appropriations to the Permanent Fund were $1,400.4 in FY82 and $400.0 in FY83.

[6]This number includes an additional adjustment for revised debt service estimate (−$26.1) and estimated FY82 supplemental (+$50.0). Because of significantly reduced petroleum revenues, certain FY82 appropriations will likely be phased over several years.

Source: Division of Budget and Management

A proposed constitutional limitation on state expenditure was passed by a joint resolution of the 1981 Alaska Legislature. The amendment will appear before voters on the November, 1982 general election ballot. This spending limit restricts total appropriations of state funds to not more than $2.5 billion, adjusted for changes in population and inflation occurring after July, 1981. Both capital and operating expenditures would be limited, with at least one-third of the total reserved for capital and loan appropriations. The limit could be exceeded by appropriations to the Permanent Fund or by capital appropriations which, in addition to passage by the Legislature and the Governor, are approved by voters. Voter acceptance of the amendment would, along with reduced petroleum revenue expectations, reduce the State's role in the Alaskan economy.

Local government spending has been boosted in recent years by funds transferred from the state level. In addition to capital projects funded directly by the State, additional local impacts are stemming from revenue sharing and municipal grants monies. This has stimulated ambitious local construction programs, such as Anchorage's "Project 80's".

NATIVE CORPORATIONS

In 1971, President Nixon signed into law the Alaska Native Claims Settlement Act. Under the terms of the Act, 44 million acres of land and over $900 million were promised to individuals and their newly created corporations. Twelve regional corporations were established based on geographic location, 203 corporations are village based, four corporations are located in cities (Juneau, Kenai, Kodiak, and Sitka) with native histories, and a thirteenth regional corporation represents Alaskan natives living outside Alaska.

In the ten years since the Act was written into law, corporations "formed with lots of capital, a lack of corporate leadership, and no product"[1] have moved into a prominent position in Alaska's economy. "There's almost no business that isn't affected by our money," according to Willie Hensley, president of NANA Development Corporation.[2]

Despite significant challenges, one of the corporations, the southeast based Sealaska Corporation, entered *Fortune* magazine's 1980 list of the 1,000 largest U.S. companies. Limited experience with corporate management, philosophical difficulties between business realities and subsistence tradition, and costly delays in the conveyance of land were among the major difficulties facing native leaders. On December 18, 1981, the tenth anniversary of the Act, less than half of the entitled land had been conveyed. The Act specified formulas for the distribution of land and cash settlements. Formulas vary by corporation type, and include native enrollment and land area as important elements.

Alaska Native Regional Corporations

Source: Alaska Blue Book, 1981

Many of the regional corporations have parlayed land entitlements and cash settlements into impressive positions in Alaskan industries. Major highlights include:

Construction: Ahtna Construction Subsidiary accounted for a sizeable share of the corporation's 1980 revenues of $4.3 million; Arctic Slope Regional Corporation's subsidiaries performed oil field services (roads, drilling pads) while Doyon, NANA, and Sealaska corporations acquired substantial construction interests.

Fishing and Processing: Six corporations hold interests in the fishing industry. Vessels are owned by Aleut ("Aleut Pride"), Calista ("Calista Sea"), and the thirteenth regional corporation (five-ship crabbing fleet). Processing operations are a part of the corporate structure of the thirteenth regional corporation, Sealaska, Chugach Natives, and Koniag.

Hotel/Motel: Hotels owned by Calista, Bristol Bay, Cook Inlet, and St. Paul Island's Tanadgusix Village Corporation include about one-third of the first-class hotel rooms in Anchorage.[3]

Natural Resources: Several corporations have signed agreements which will allow oil exploration on their lands. Cook Inlet Region, Inc. owns interests in the Beluga Coal fields, Cook Inlet natural gas wells, and North Slope drilling operations. Bristol Bay Native Corporation is involved in diamond exploration at Gibraltar Lake, and zinc and silver deposits at Green's Creek on Admiralty Island. Doyon, Inc. owns a mineral exploration firm, International Technology, and Sealaska has a sizeable timber operation accounting for over one-fifth of the total Southeast Alaska timber harvest.

Transportation: Three subsidiaries — Aleut Alaska Shipping Company, Cape Sarichef Inc., and Aleutian Transportation Company, — produce a large portion of

Aleut corporation revenue. Sealaska owns Pacific Western Lines which operates three tugs and eight barges between Seattle and Anchorage. Doyon owns 40 percent of Eagle International Corporation, which is negotiating a purchase of Wien Air Alaska and would be involved in a proposed merger with Western Airlines.

Real Estate: Included among notable real estate holdings are Bering Straits Native Corporation's mobile home park at Valdez, an apartment complex in Fairbanks, and storage and housing at Cold Bay. Cook Inlet Corporation owns Anchorage office buildings, while Calista Corporation owns the Settler's Bay real estate development near Wasilla.

Banking: Cooperation among corporations is evident in the ownership of the United Bank of Alaska, the State's sixth largest, by seven of the Regional Corporations. These are Ahtna, Bristol Bay, Chugach, Cook Inlet, Doyon, NANA, and Sealaska.

These activities produced profits for eight of the thirteen regional corporations during the most recent fiscal year. The largest profits were reported by Sealaska and Cook Inlet. The latter corporation showed profits of $9 million over the past two years. Sealaska, whose 1980 sales figures earned it *Fortune* magazine's recognition, estimates 1981 sales at $225 million which would move it considerably higher on *Fortune*'s list of the 1,000 largest U.S. companies.

The local village corporations direct most of their activity to local concerns, but they also have holdings of statewide significance. The Tanadgusix Village corporation owns a major Anchorage hotel, the Saxman based Cape Fox Corporation owns the Sheffield House in Juneau, and the Shee Atika Corporation owns a hotel in Sitka. Other activities include: a fishing cannery and retail store owned by the Mt. Village Azachorok, Inc. and participation in United Bank of Alaska ownership by Kotzebue's Kikiktagruk Inupiat Corporation. Ten of the original 203 village corporations have merged to form the Kuskokwim Corporation in Western Alaska. Seven additional villages chose to obtain full title to their former reserve lands giving up rights to other land or cash settlements.

Despite the advances made to date, the various native corporations will continue to face difficulties; while all cash settlements have been distributed, most of the corporations are involved in litigation regarding land entitlements. For instance, Chugach Native Corporation occupies a region which is part of the Chugach National Forest and must seek entitlements outside of its region. To date, the corporation has received no land.

Balancing corporate aims with a responsibility to Native shareholders will continue to challenge the corporations. A tradeoff will exist between reinvesting profits to foster future business growth and distributing dividends to raise current living standards. In this regard, it is important to note that several corporations have instituted training programs to insure that their members will have opportunities in corporate ventures. Sealaska hopes to encourage training in logging skills, while Ahtna provides jobs for shareholders at its Glenallen lodge. The Kotzebue based NANA corporation has emphasized shareholder benefits through encouraging shareholder participation in corporate decisions and providing education, employment and traditional cultural activities.

A long-term problem facing the corporations is the public trading of stock which will begin in 1991. Until then, stocks can only be transferred by inheritance; they cannot be traded or sold. While corporations will hold first right in stock trading, control could shift from current native stockholders. Many corporations are educating stockholders on the ramifications of stock trading, hoping to encourage maintenance of native ownership and control beyond 1991.

Table XXX: Native Corporations in Summary

Native Corporation	# of City & Village Corporations	# of Shareholders	Land Entitlement (acres)	Subsurface Entitlement (acres)	Money Received
Ahtna	1	1,074	1 million	1.8 million	$13 million
Aluet	14	3,249	53 thousand	1.4 million	$40 million
Arctic Slope	8	3,738	4.1 million	5.2 million	$47 million
Bering Straits	21	13,308	109 thousand	2.3 million	$80 million
Bristol Bay	25	6,333	87 thousand	3.1 million	$67 million
Calista	41	5,400	212 thousand	6.5 million	$165 million
Chugach	5	1,912	378 thousand	962 thousand	$24 million
Cook Inlet	9	6,264	1.5 million	2.7 million	$77 million
Doyon	28	3,344	8.6 million	12.3 million	$113 million
Koniag	10	4,828	53 thousand	1.6 million	$41 million
NANA	1	9,061	861 thousand	2.3 million	$60 million
Sealaska	12	15,819	265 thousand	334 thousand	$197 million
Thirteenth	0	4,435	None	None	$46 million

Source: The Anchorage Times, December 19, 1981

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THE ALASKA ECONOMIC INFORMATION AND REPORTING SYSTEM

QUARTERLY REPORT
August 1982

STATE OF ALASKA
JAY S. HAMMOND, GOVERNOR

RONALD LEHR, DIRECTOR
DIVISION OF BUDGET AND MANAGEMENT

Text and Forecast
Prepared by
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SUMMARY

Persistent weakness in world crude oil demand has caused oil prices to decline, thus substantially reducing the Department of Revenue (DR) March forecast of Alaska petroleum revenues for FY83 and FY84. Projected State petroleum revenues, net of the Permanent Fund contribution, dropped from an estimated $3.607 billion to $2.339 billion for FY83, and from $4.408 billion to $2.545 billion for FY84. Thus, this sizeable reduction in State revenue estimates is a major negative factor directly affecting employment in Alaska.

Major oil companies have revised downward their plans for extensive drilling and exploration activities on the North Slope and in the Beaufort Sea. However, this revision may be largely offset by State capital expenditures. A large number of State-authorized capital projects suggest greater nonpetroleum construction activity in 1982 and 1983 than was experienced in 1981. Total construction activity is expected to be modestly higher in 1982 as compared to 1981.

A record salmon catch of 135 million fish was forecasted for the 1982 season by Alaska Department of Fish and Game (ADF&G) (Division of Commercial Fisheries). This catch would exceed the previously recorded all-time high catch of 126.5 million salmon made in 1936, and the second largest recorded catch of 113.4 million salmon made in 1934. However, due to major changes in demand outlook which took place after the December, 1981 ADF&G forecast, our base case forecast assumes a smaller salmon catch in 1982 than in 1981, with a consequent reduction in fish and seafood processing employment.

During 1981, recessionary conditions in the Japanese housing industry reduced Alaska's timber harvest significantly over 1980. While Japan's economy shows signs of modest recovery, the housing industry gives no indication of improvement. Our base case forecast assumes the 1982 timber harvest will approximate the 1981 level.

In the financial sector, our base case forecast assumes a downward revision in the projected growth of total deposits at Alaska's commercial and mutual savings banks for 1983, deviating from the October, 1981 AEIRS projection. These deposits grew at 11.3 percent in 1981; they are projected to grow at 10.9 percent in 1982, and 8.3 percent in 1983. During the past six years, Alaska's savings and loan associations depended on jumbo certificates for deposit expansion. The growth pattern of these certificates suggest that they are tied, through State government dispersements to municipalities, to the sharp increase in State Government oil and gas receipts during the 1976-1981 period.

Inflation rate projections in the October, 1981 AEIRS have been borne out by subsequent price behavior. These assumptions were "a sluggish national economy, a continued worldwide surplus of crude oil, and an increase in U.S. and world food supplies." These conditions have led to a lower rate of inflation. The overall Anchorage inflation rate is projected to be 6.3 percent in 1982, as compared to a forecasted 5.7 percent for the U.S. economy.

The current AEIRS base case forecast projects increases in nonagricultural employment of 3.3 percent in 1982 and 1.8 percent in 1983. This represents a reduction from the previous AEIRS forecast (October, 1981) due to the decline in estimated State petroleum revenues.

Personal income will increase sharply in the second half of 1982 as a result of the Permanent Fund distribution. The distribution will raise total residence personal income from $6.349 billion to $6.782 billion.

In addition to the base case forecast, we have presented two alternative forecasts: the Optimistic and the Pessimistic. These assumptions, forecasts, and tables are introduced for the first time in this edition of AEIRS. We have also included a discussion of the various measurements of unemployment rate used by the U.S. Bureau of Labor Statistics. Graphs have been included here which present these measurements, and compare the "official" U.S. unemployment rate to that of Alaska. Additional graphs have been included which illustrate forecasted employment levels in Alaska's industries.

U.S. SHORT TERM ECONOMIC OUTLOOK AND THE EFFECT ON ALASKA

Considerable uncertainties exist regarding the U.S. employment and inflation outlook. The consensus appears to favor a mild U.S. economic recovery taking place in the second half of 1982. This hope is based on the effect of a substantial July 1 federal tax cut and a cost of living raise in Social Security payments. The principal block to economic recovery is continued high interest rates. The ongoing tight monetary policy implemented by the Federal Reserve has decreased the abnormally high U.S. inflation rates to modest levels, but it has also prolonged the U.S. recession. Interest rates, which are usually closely tied to inflation rates, have fallen much less than inflation. As a consequence, inflation adjusted (real) interest rates are now at their highest levels in U.S. history. The effect of these high rates has been to inhibit economic recovery by choking off new investments in projects that, under ordinary circumstances, would be profitable.

Alaska's economy is affected by the U.S. economy in two direct ways. First, Alaska's inflation rates generally follow U.S. inflation rates in direction and approximate magnitude. If the Federal Reserve continues its tight money policy, U.S. inflation rates will be low, and Alaska's inflation rates will follow suit. However, if the Federal Reserve decides to follow a much easier monetary policy in order to stimulate the national economy, much higher U.S. inflation rates could occur. Second, a sluggish national economy implies a sluggish world economy with a consequent weak demand for world and U.S. crude oil. Under these circumstances, crude oil prices will not be strong. However, a strong U.S. and world economy will firm up crude oil prices.

BASE CASE FORECAST - PRINCIPAL ASSUMPTIONS

Alaska State Government Petroleum Revenues - As described in the October, 1981 AEIRS Report, petroleum revenues received by the State of Alaska affect the functioning of Alaska's economy in a crucial way. Under existing law, the amount of revenue obtained from petroleum production depends primarily on the volume of petroleum produced, and the wellhead price associated with such production. The wellhead price, in turn, is directly related to U.S. and world crude oil prices. Because of persistent weakness in petroleum demand, due to a number of factors mentioned in the October, 1981 AEIRS Report, U.S. and world crude oil prices dropped significantly below the OPEC benchmark price of $34 per barrel early this year. These price drops substantially reduced the Department of Revenue (DR) forecast of State petroleum revenues. From the December, 1981 to the March, 1982 DR forecast, estimated FY83 and FY84 State petroleum revenues, net of the Permanent Fund contribution, dropped from $3.607 billion to $2.339 billion, and from $4.408 billion to $2.545 billion, respectively. Part of this decline is due to a conservative "accounting" change starting with FY84 projections. Instead of using the mean forecast of revenues (the chances of actual revenue being above or below the forecasted value are approximately 50-50) for budgetary purposes, the March DR forecast for FY84 and beyond uses a 30 percent criterion (there is only a 30 percent chance that actual revenues will fall below the forecasted value).

In addition, the March DR forecast was based on the assumption that persistence of sharply lower crude oil prices would continue. These prices recently have strengthened after declining during the first quarter of this year. In the base case simulation, the 50 percent criterion is used, and crude oil price information available after the March DR revenue forecast has been factored into the forecast. The net effect is to make the base case forecast less pessimistic than one might intuit from examination of the March DR revenue forecast.

Construction

Last year, Anchorage had a construction boom in both the private and public sectors. Several large private construction projects were started in downtown Anchorage, including two of the state's most expensive office buildings, the $65 million, twenty-one story, Arco Alaska office tower, and the $45 million, 300,000 square feet, Hunt Building. Present indications suggest that even more private-sector construction of both multiple unit housing and office space will occur in 1982.

For 1982, the Anchorage municipality's plan for capital improvements includes about 150 different projects valued at approximately $200 million. Some of the major projects under this plan include: a $43.2 million central library, a $40 million performing arts center, a $25 million sports arena, and a $20 million convention center.

The 1982 capital improvement budget for the Fairbanks North Star Borough is about $77 million, an increase of $15 million over the 1981 budget. Fairbanks voters last year approved a $50 million bond issue to finance construction of three elementary schools and a high school.

Juneau in 1981 had the smallest percentage increase in construction among the state's three largest cities. One of the largest 1982 public capital improvement projects will be a $7.7

million expansion of the Juneau airport apron and design of a new airport terminal. This year, Alaska's voters will answer the question of whether to move the State capital from Juneau. If the move is approved, a sharp drop in Juneau building activity will occur; conversely, if the move is defeated, building activity in Juneau will accelerate.

At the beginning of this year, it appeared as though construction activities in the State could reach a substantially higher level than during the boom conditions of 1981. However, petroleum price weakness has led major oil companies to revise downward their plans for extensive exploration and drilling activities on the North Slope and Beaufort Sea. Nevertheless, this downward revision may be largely offset by State capital expenditures. A large number of State-authorized capital projects suggest greater nonpetroleum construction activity in 1982 and 1983 than was experienced in 1981. Total construction activity is expected to be modestly higher in 1982 as compared to 1981.

Fishing

A record salmon catch of 135 million fish was forecasted for 1982 by Alaska's Department of Fish and Game (Division of Commercial Fisheries). This level would exceed the previously recorded all-time high catch made in 1936 of 126.5 million salmon, and the second largest recorded catch of 113.4 million which was made in 1934, a period in which there was little regulation of Alaska's salmon industry. The 1982 forecast compares to the estimated 1981 catch of 111.4 million salmon, and the 1980 catch of 110.3 million salmon, the third and fourth largest recorded catches. Because State fisheries officials doubt the ability of domestic fish processors to handle the predicted record catch, the Board of Fisheries has lifted the ban on foreign processing in Alaskan waters. Several foreign processors have been invited to bid for processing pink salmon in specified Alaskan fisheries.

On the demand side, it is extremely unlikely that consumption of canned salmon will reach the 1981 level. The duration of Western European and South African canned salmon embargoes, as a consequence of one known instance of botulism, is unknown but the embargo imposed by Great Britain will be particularly damaging since it is the world's largest importer of U.S. canned salmon. As a result of the near-record catches of 1980 and 1981, and the effect of the embargoes, there are tens of millions of surplus cans of unsold Alaskan salmon sitting in west coast warehouses.

Due to the change in the demand outlook that has occurred since the December, 1981 Fish and Game forecast, the base case forecast assumes a smaller salmon catch in 1982 than in 1981, with a consequent reduction in fish and seafood processing employment.

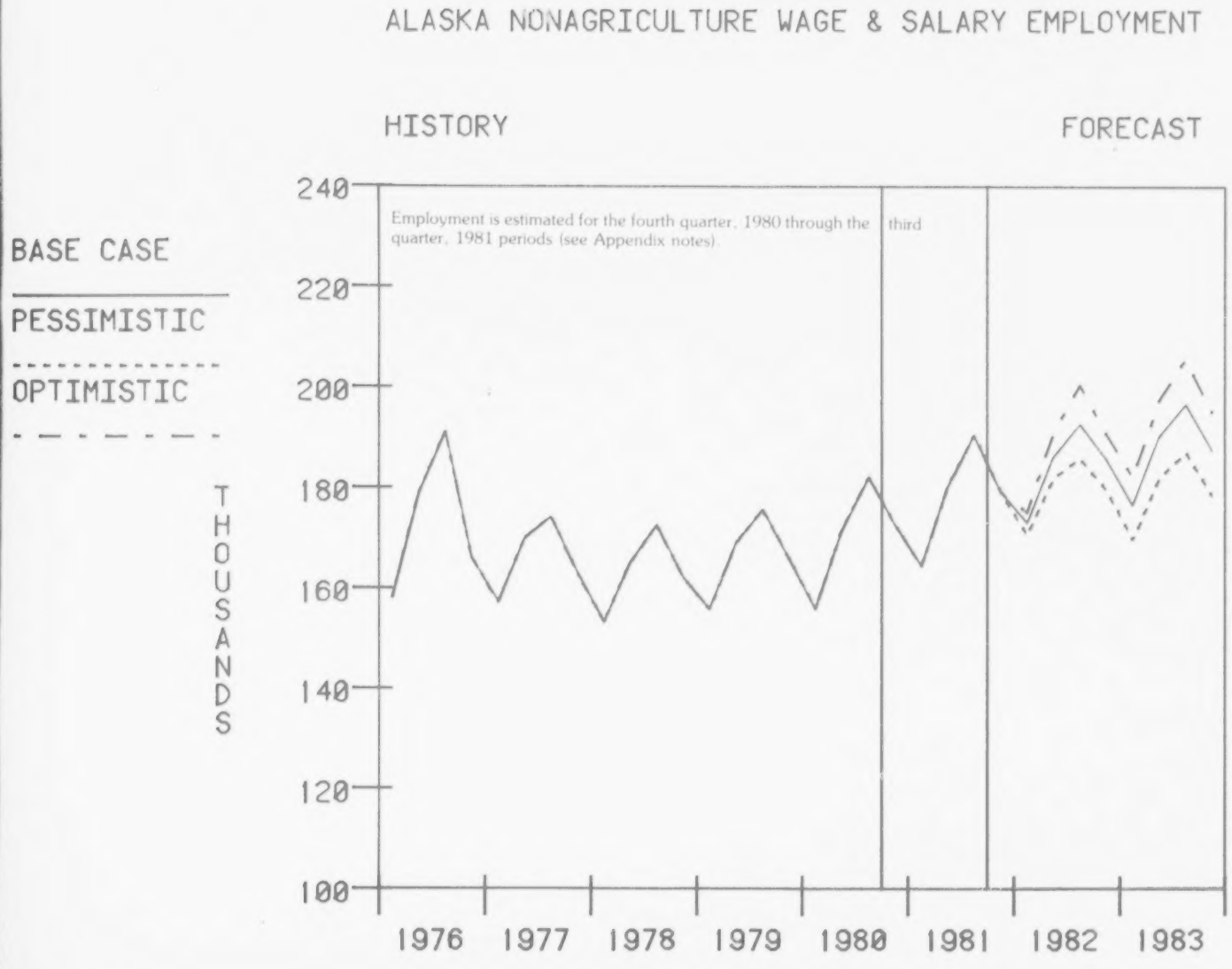
Timber

Because of recessionary conditions in the Japanese housing industry last year, the Alaskan timber harvest in 1981 amounted to 446 million board feet, compared to 519 million board feet in 1980. While the Japanese economy shows signs of modest recovery, the stagnant housing industry gives no indication of improvement. Therefore, the base case assumption is that the 1982 timber harvest will reach approximately the same level as in 1981. For 1983, the timber harvest is assumed to increase by 15 percent over 1981.

BASE CASE EMPLOYMENT FORECAST, 1982 and 1983

The current AEIRS base case forecast shows increases in nonagricultural employment of 3.3 percent in 1982 and 1.8 percent in 1983. This compares with a 5.0 percent and 3.8 percent increase, respectively, for 1982 and 1983 in the October, 1981 forecast. Several reasons account for a less favorable employment outlook, the main one being a sharp reduction in State oil and gas revenues. This will directly affect employment in state and local government, and indirectly affect employment in construction, retail and wholesale trade. Other reasons include a generally less favorable price outlook for nonpetroleum mining, creating a negative impact on exploration activities, a reduction in employment in fish and seafood processing, due to a low salmon demand, and a slow down after November, 1982 in hiring for federal government positions.

On an industry-by-industry basis, projected average annual rates of growth in employment from 1981 to 1982 and from 1982 to 1983 are; mining, 6.4 and 0.9 percent; contract construction, 8.8 and 2.8 percent; manufacturing, -6.3 percent and 5.2 percent; transportation, communications and public utilities, 4.4 and 3.1 percent; wholesale trade, 9.4 and 3.6 percent; retail trade, 6.6 and 3.1 percent; finance, insurance and real estate, 3.4 and 0.7 percent; services, 2.3 and 2.9 percent; federal government, 1.4 and 0.0 percent; state government, 0.5 and -1.1 percent; and local government, 5.9 and 0.5 percent.



PESSIMISTIC FORECAST

In the pessimistic forecast, the current rebound in crude oil prices is temporary. Prices reverse in 1982 and drop below recent lows. The forecast uses the March DR revenue projection which leads directly to lower State and local government employment.

Where the base case forecast assumes 1982 to be another poor year for the logging and sawmill industries, the pessimistic forecast makes only minor reductions in the timber cut from the base case forecast.

Further, this forecast assumes many of the fish processing plants will close down because of low salmon prices, weak demand, and surplus supplies.

The cap on federal government employment is assumed to be more effective than anticipated, and federal employment shows a decline over the forecast period.

In the pessimistic forecast, total nonagricultural employment changes little in 1982 and 1983; it increases by 0.5 percent in 1982 and decreases by 0.2 percent in 1983. Annual rates of employment growth in percentage terms by industry for 1982 and 1983 are; mining, 1.8 and -1.0; contract construction, 4.5 and -8.0; manufacturing, -13.6 and 10.2; transportation, communications and public utilities, 1.4 and 2.6; wholesale trade, 6.7 and 2.3; retail trade, 5.1 and 2.5; finance, insurance and real estate, 1.5 and -2.2; services, 0.6 and 1.6; federal government, 0.0 and -2.2; state government, -1.1 and -1.8; and local government, 1.8 and -3.8.

OPTIMISTIC FORECAST

In the optimistic forecast, further modest increases occur in crude oil prices. These increases create higher than anticipated State revenues which generate greater State and local government employment.

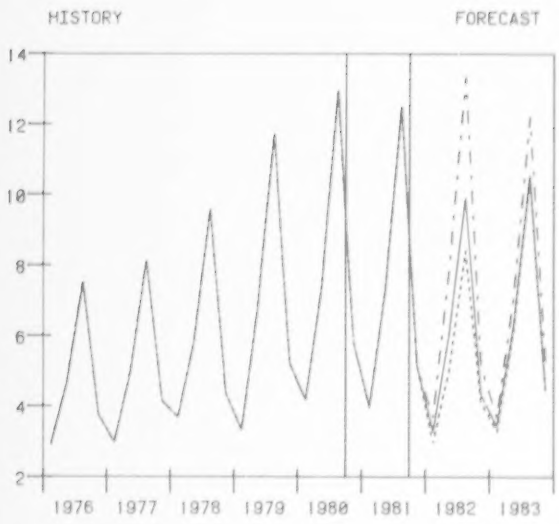
It is assumed that the Japanese housing industry improves, and, consequently, Alaskan logging and saw mill operations significantly expand over the depressed 1981 levels.

Seafood demand is strong, and the forecast of a record salmon catch is accurate. The actual salmon catch will equal Fish and Game's forecast of 135 million fish.

The policy of reducing growth in federal government employment fails, with a resultant increase in federal employment over the base case forecast.

In the optimistic forecast, total nonagricultural employment is moderately higher than levels projected in the October, 1981 AEIRS Report; it increases by 6.0 percent in 1982 and 3.0 percent in 1983. Annual rates of employment growth in percentage terms by industry for 1982 and 1983 are; mining, 11.0 and 2.7; contract construction, 14.7 and 6.6; manufacturing, 8.5 and 0.0; transportation, communications and public utilities, 6.6 and 3.3; wholesale trade, 11.0 and 4.1; retail trade, 6.8 and 3.5; finance, insurance and real estate, 5.2 and 2.9; services, 4.0 and 4.1; federal government, 2.0 and 1.2; state government, 1.1 and 0.2; and local government, 7.5 and 3.6.

ALASKA SEAFOOD PROCESSING EMPLOYMENT



BASE CASE

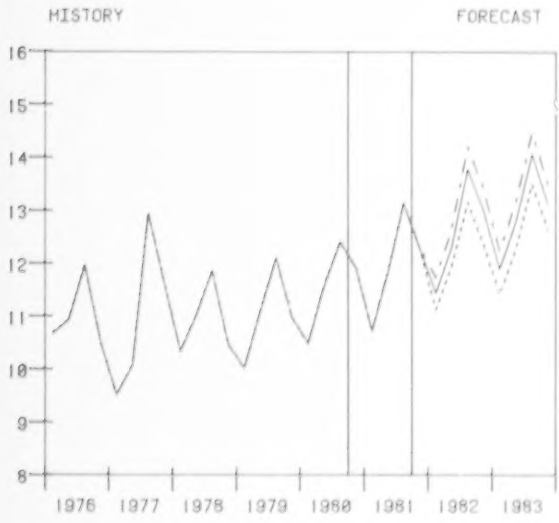
PESSIMISTIC

OPTIMISTIC

THOUSANDS

ALASKA MINING EMPLOYMENT

ALASKA TRANSPORTATION EMPLOYMENT



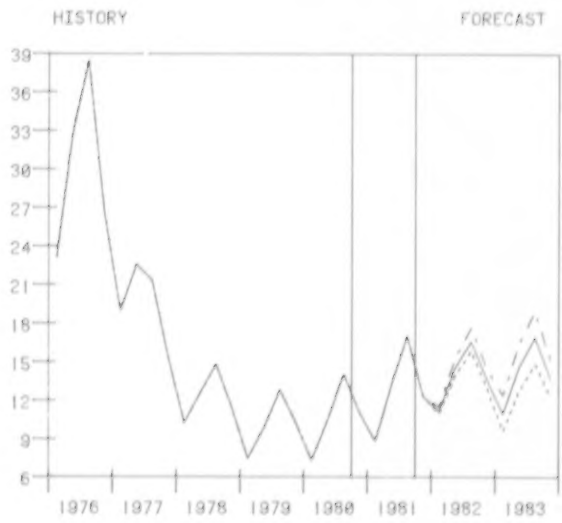
BASE CASE

PESSIMISTIC

OPTIMISTIC

THOUSANDS

ALASKA CONTRACT CONSTRUCTION EMPLOYMENT



ALASKA SERVICES EMPLOYMENT

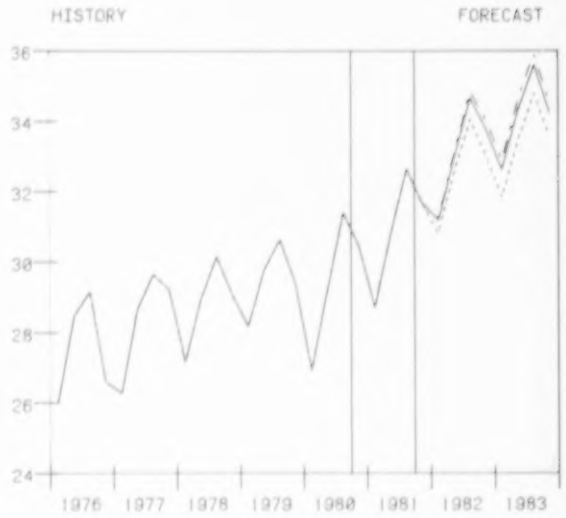
BASE CASE

PESSIMISTIC

OPTIMISTIC

THOUSANDS

ALASKA WHOLESALE & RETAIL TRADE EMPLOYMENT



ALASKA COMMUNICATIONS EMPLOYMENT

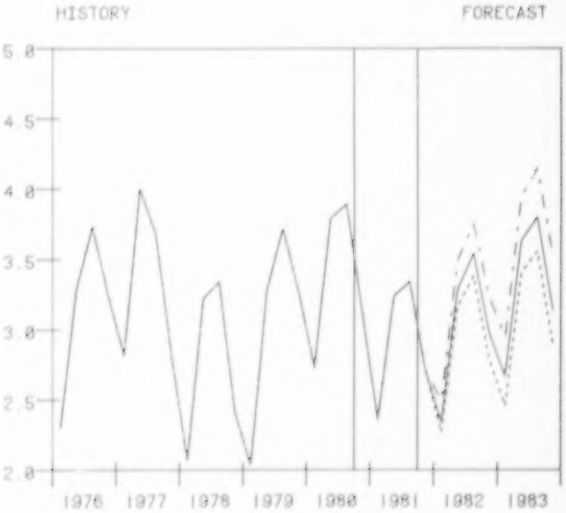
BASE CASE

PESSIMISTIC

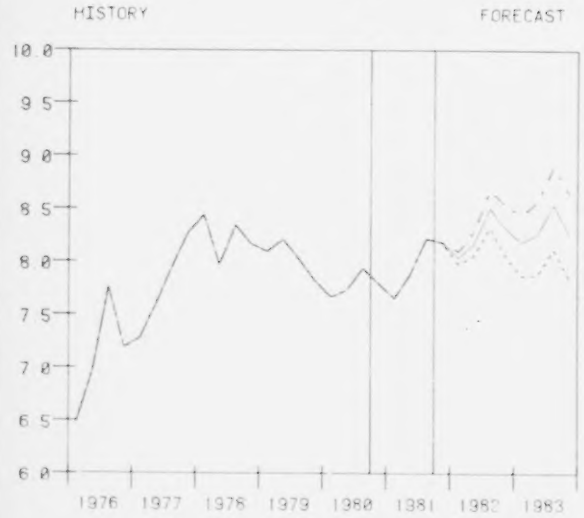
OPTIMISTIC

THOUSANDS

ALASKA LOGGING,SAWMILL,PAPER & PULP EMPLOYMENT



ALASKA FINANCIAL, INSURANCE,
AND REAL ESTATE EMPLOYMENT



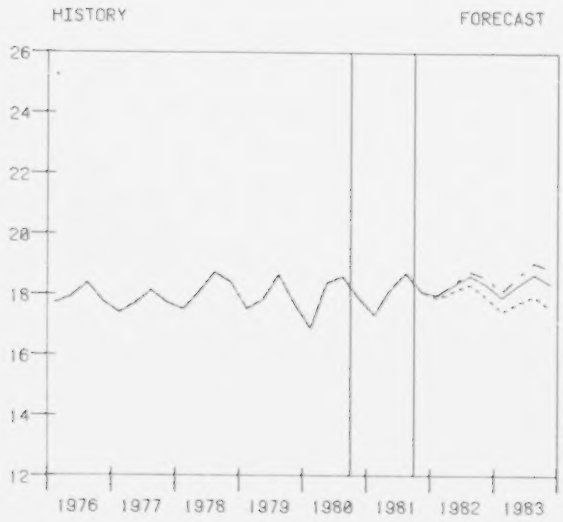
BASE CASE

PESSIMISTIC

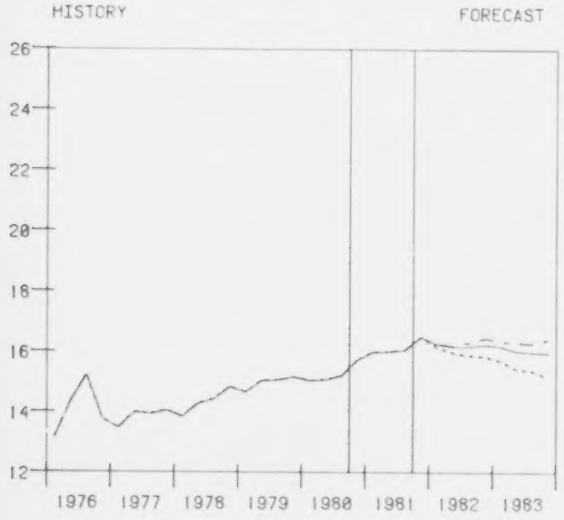
OPTIMISTIC

THOUSANDS

FEDERAL GOVERNMENT EMPLOYMENT, ALASKA



ALASKA STATE GOVERNMENT EMPLOYMENT



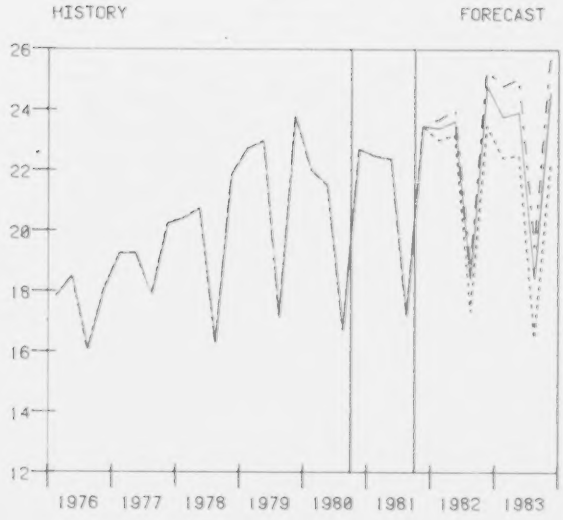
BASE CASE

PESSIMISTIC

OPTIMISTIC

THOUSANDS

ALASKA LOCAL GOVERNMENT EMPLOYMENT



THE INFLATION OUTLOOK*

Inflation rate assumptions used in the last AEIRS Report (October, 1981) have been borne out by subsequent price behavior. These assumptions were "a sluggish national economy, a continued worldwide surplus of crude oil, and an increase in U.S. and world food supplies." These conditions, as forecasted, have led to a lower inflation rate. The rate of reduction was greater than anticipated, however, with the Anchorage inflation rate falling from 10.3 percent in 1980 to 8.1 percent in 1981, rather than a forecasted 8.9 percent in 1981. The principal reason for this lower than expected rate was a third and fourth quarter reduction in the Anchorage area housing inflation rate, something difficult to anticipate in view of the extremely low (less than one percent) Anchorage rental housing vacancy rate. The October, 1981 inflation rate assumptions remain valid for the remainder of 1982, and, to a lesser degree, for 1983 as well.

For 1982, only a slight increase in Anchorage apparel and upkeep prices is being forecast, because of the drop in these prices that occurred in the first quarter of 1982.** Increased U.S. agricultural output will continue to restrain increases in food prices in 1982, but market adjustments should lead to a higher rate in 1983, one similar to the 1981 rate. The entertainment inflation rate has risen in the last three years, from 2.7 percent in 1979 to 8.3 percent in 1981. This trend should continue in 1982, followed by a drop to more historically average rates in 1983. The housing inflation rate should drop only slightly in 1982 because rental and nonrental housing vacancy rates will probably continue to be extremely low in 1982. In 1983, rental and nonrental housing vacancy rates should rise because of an increased supply of housing, resulting in a more substantial drop in the housing inflation rate. Transportation inflation rates should drop sharply in 1982, due to ample supplies of crude oil relative to demand, but they should rise in 1983 as demand and supply come more into balance.

For several reasons, medical cost increases since 1967 have occurred at much higher rates than the general price index. These reasons are expected to be valid through 1982 and 1983. Consequently, higher rates of inflation for medical care should occur in 1982 and 1983 when compared to the general inflation rate.

While in 1981 the U.S. CPI increased by 10.4 percent, the Anchorage CPI increased by 8.1 percent, less than three-quarters of the U.S. rate. This result is consistent with past rate relationships; the Anchorage inflation rate has been lower than the national average in 15 of the last 21 years (see July, 1981 AEIRS). This generally lower rate has narrowed the relative difference between the higher Anchorage cost of living and the average cost of living in other U.S. cities.

* Inflation rates and levels in this section always refer to the CPI (Consumer Price Index, all urban consumers).

** The drop that took place simply may be the result of sampling error. Because components of the CPI are based on small sample size, the "true" value of a CPI component could be substantially different from the "sample" value. This problem is compounded when comparing changes in sample values over two or more time periods.

ANCHORAGE CONSUMER PRICE INFLATION*
(Percent)

	Percent Change in Annual Average over Previous Year's Annual Average				
	1979	1980	1981	1982	1983
Apparel and Upkeep	2.4	9.8	4.9	1.1	3.3
Food and Beverages	10.6	6.8	5.2	3.3	5.4
Entertainment	2.7	6.0	8.3	9.9	4.7
Housing	11.8	10.2	7.6	7.1	5.4
Transportation	10.6	15.3	12.8	4.4	5.2
Medical Care	9.0	14.0	10.2	10.5	9.0
Other Goods and Services	7.2	8.1	6.1	5.4	5.3
All Items	10.4	10.3	8.1	6.3	5.5
U.S., All Items**	11.4	13.5	10.4	5.7	6.2

* As measured by the percent change in the Anchorage Consumer Price Index for all urban consumers.

** U.S. consumer price inflation as measured by the percent change in the U.S. Consumer Price Index for all urban consumers.

The overall Anchorage inflation rate (CPI) is projected to be 6.3 percent in 1982, as compared to a 5.7 percent May forecast for the U.S. inflation rate (CPI) presented by Data Resources, Inc. This runs counter to the long term tendency for the U.S. inflation rate to be higher than the Anchorage rate. The primary reason for this is the short supply of housing in Anchorage. For 1983, DRI has forecast a 6.2 percent U.S. inflation rate; our forecast for the 1983 Anchorage inflation rate is 5.5 percent, which agrees with the long term tendency.

Due to U.S. budgetary cutbacks, publication of the Fairbanks Consumer Price Index has been discontinued.

PERSONAL INCOME, 1982-1983

Personal income has been growing rapidly in Alaska since 1978. From 1978 to 1981, personal income grew by 9.6 percent. With the Permanent Fund distribution during the second half of 1982, personal income will rise by 16.5 percent, instead of the projected 9.9 percent without the Permanent Fund distribution. This raises total residence personal income from $6.349 billion to $6.782 billion in 1982. We have conservatively estimated that the Permanent Fund distribution will be $151 million in 1983. Personal income in 1983 is projected to rise by 1.7 percent. The reason for this sharp decline is that the 1983 distribution will be substantially less than the distribution in 1982.

THE FINANCIAL SECTOR

The current base case forecast projects an Alaskan economic upswing in the 1982-1983 period smaller than the October, 1981 AEIRS Report projection. This has led to a downward revision in the projected growth of total deposits at Alaska's commercial and mutual savings banks, particularly for 1983. These deposits grew at 11.3 percent in 1981, a growth rate one percent below the October forecast; they are projected to grow at 10.9 percent in 1982, and 8.3 percent in 1983.

Total deposits in Alaska's five savings and loan associations expanded by an extremely rapid 33 percent in 1981. This increase should continue, but at a more modest rate in 1982, 15.1 percent, and in 1983, 11.6 percent.

During the past six years, Alaska's savings and loan associations depended on jumbo certificates for deposit expansion. Jumbo certificates grew from $24.2 million in 1976 to $186.2 million in 1981, an annualized compound rate of 50.4 percent, while during the same time period, small certificates (less than $100,000) grew from $123.3 million to $175.5 million, an annualized compound rate of 7.3 percent. A large fraction of jumbo certificates are held by municipalities, particularly Anchorage. The growth pattern of these certificates suggest that they are tied, through state government dispersements to municipalities, to the sharp increase in state government oil and gas receipts over the 1976-1981 period.

INTEREST RATE FORECASTS

The accuracy of four DRI interest rate forecasts are examined here: the three-month U.S. Treasury bill rate, the three-month Euro-dollar rate, the triple A-rated state and local government general obligation bonds, and Moody's triple A-rated corporate bonds. Since these rates encompass a wide spectrum of instruments, the results obtained for these four rates should also apply to other DRI interest rate forecasts. Further, since forecasts made by the leading econometric forecasting services typically are similar, the conclusions arrived at from the analysis of DRI interest rate forecasts probably apply to other well known econometric forecasting services as well.

We compared the DRI forecast with a "naive" forecast. The naive forecast uses the actual interest rate in the last quarter as the forecasted value for each of the subsequent quarters in the forecast period.

A record of these forecasts on a quarterly basis for each of the four interest rates examined (for each of four forecast periods) is given in the Appendix panels labeled, "Detailed Tables of Accuracy of DRI Interest Rate Forecasts." A summary of these tables appears below.

The percent error shown in the table below is the root mean square percent error in percentage terms, a widely accepted way to determine forecasting errors. The formula used to calculate this measure of error is presented in the Appendix notes on the interest rate accuracy tables.

Examination of the forecast accuracy reveals large errors in many of the DRI interest rate forecasts. The average percentage error over the forecast periods examined ranges from a

low of 11.2 percent to a high of 44.2 percent.* The average naive forecast percentage error range is from a low of 9.3 percent to a high of 34.6 percent; it is smaller than the DRI forecast error. On a quarter-by-quarter basis, DRI did better than the naive forecast in only 38 out of 104 observations.

It is not surprising that DRI and, by inference, other econometric models did poorly in forecasting interest rates. When recent values for rate variables, in this case interest rates, lie well outside the range of earlier historical experience, equations based on the earlier historical experience tend to do poorly. Also, neither consensus nor a generally accepted econometric model exist to explain why inflation-adjusted interest rates exceed historical experience.

The naive prediction of interest rates is superior to the corresponding DRI prediction over the four forecast periods examined. This raises several interesting questions. Does the naive forecast of interest rates also do better in periods of low average interest rates? Does the DRI inflation rate forecast also suffer by comparison to the naive forecast? How well do DRI forecasts of growth rates of other economic variables perform compared to their corresponding naive forecasts? These questions cannot be answered without analyzing other economic variables and other forecast periods. We plan to provide answers to these questions in future issues of AEIRS. However, it should be noted that unlike many other economic variables, interest rates behaved erratically, and therefore were particularly difficult to forecast.

* For individual quarters, the percentage errors range will lie outside the above limits (see the Appendix for the quarterly percentage errors in interest rate forecasts). If we compare the DRI to the naive forecast for different forecast periods, we find that DRI does poorly compared to the naive forecast for the forecast periods 1980:2 to 1982:1 and 1980:3 to 1982:1. Considering each interest rate for each quarter for each observation period as one observation, DRI did better than the naive forecast in only 6 out of 60 observations. In the next period, 1980:4 to 1982:1, the naive forecast for short-term interest rates had its worst performance. This occurred because short-term rates hit a quarterly low in the prior quarter and increased in subsequent quarters. DRI did better than the naive forecast in 23 out of 24 observations during this period. In the last period examined 1981:1 to 1982:1, DRI performed better than the naive forecast in 9 out of 20 observations. Overall, DRI did better than the naive forecast in 38 out of 104 observations.

Accuracy of DRI Interest Rate Forecast
Average Values Over Forecast Period*

Short Term Rates	80:2-82:1	80:3-82:1	80:4-82:1	81:1-82:1
90-day U.S. Treasury Bills				
Actual	12.69	13.12	13.75	13.78
DRI Forecast	10.62	7.29	10.57	13.29
Percent Error, DRI Forecast**	31.49	44.23	24.14	11.16
"Naive" Forecast	13.35	9.62	9.35	13.61
Percent Error "Naive" Forecast**	21.88	27.97	31.59	9.32
Number of Quarters DRI Better than "Naive"	1 out of 8	0 out of 7	6 out of 6	3 out of 5
90-day Euro-dollar Rate				
Actual	15.25	15.60	16.41	16.40
DRI Forecast	12.38	8.96	11.97	15.25
Percent Error, DRI Forecast**	35.42	42.69	28.32	14.03
"Naive" Forecast	16.13	12.74	10.74	16.46
Percent Error "Naive" Forecast**	21.51	22.31	34.56	9.95
Number of Quarters DRI Better than "Naive"	1 out of 8	1 out of 7	6 out of 6	2 out of 5
Long Term Rates				
State and Local AAA General Obligation Bonds				
Actual	9.74	10.09	10.45	10.77
DRI Forecast	7.36	6.45	8.16	8.78
Percent Error, DRI Forecast**	27.56	36.05	22.69	20.37
"Naive" Forecast	7.34	7.29	7.91	8.84
Percent Error "Naive" Forecast**	26.08	28.32	24.92	19.03
Number of Quarters DRI Better than "Naive"	3 out of 8	0 out of 7	5 out of 6	2 out of 5
Moody's AAA Corporate Bonds				
Actual	13.41	13.73	14.09	14.34
DRI Forecast	11.43	10.06	11.79	12.71
Percent Error, "Naive" Forecast**	20.01	27.40	16.97	12.45
"Naive" Forecast	12.14	11.20	11.58	12.83
Percent Error, "Naive" Forecast**	13.02	19.28	18.21	11.23
Number of Quarters DRI Better than "Naive"	0 out of 8	0 out of 7	6 out of 6	2 out of 6

* Data Source: The Data Resources Review of the U.S. Economy, May, 1980 issue, Data Resources, Inc., Lexington, MA; forecast period - 80:2-82:1
Ibid, August 1980 issue, forecast period - 80:3-82:1
Ibid, November 1980 issue, forecast period - 80:4-82:1
Ibid, February 1981 issue, forecast period - 81:1-82:1

** Root Mean Square Error, in percentage terms. See Appendix on calculation of the value.

SELECTED INTEREST RATES
(Percent)

	Calendar Quarters							
	History			Forecast				
	81:3	81:4	82:1	82:2	82:3	82:4	83:1	83:2
90-day U.S. Treasury Bill	15.05	11.75	12.81	11.58	11.15	11.54	12.26	11.48
"Naive" Forecast				12.81	12.81	12.81	12.81	12.81
90-day Euro-Dollar Rate	18.36	14.26	14.95	13.97	13.07	13.71	14.48	13.34
"Naive" Forecast				14.95	14.95	14.95	14.95	14.95
Moody's AAA Corporates	14.92	14.62	15.01	14.31	13.38	13.05	13.03	12.84
"Naive" Forecast				15.01	15.01	15.01	15.01	15.01
State & Local AAA General Obligations	10.95	11.60	12.15	11.46	10.52	10.53	10.98	10.58
"Naive" Forecast				12.15	12.15	12.15	12.15	12.15
Conventional Mortgage Rate Seattle	15.6	15.7	15.6	15.4	14.8	14.7	14.9	14.7
"Naive" Forecast				15.6	15.6	15.6	15.6	15.6

ACKNOWLEDGEMENT: Forecasts of all but the "Naive" and Seattle Mortage rate were obtained from the Data Resources, Inc., May 1982 "Control" Forecast of the U.S. Economy.

UNEMPLOYMENT RATE MEASURES

U.S. aggregate employment statistics have been collected since the 1870 decennial census. These early statistics reported the occupation of all persons aged 10 years or older. Development of an unemployment measure, however, was not part of the early censuses since respondents were requested to report their primary occupation, whether or not they were currently working at it. This process of designating labor force participation by occupation became known as the gainful worker approach. This classification process was refined, and by 1940 a national monthly unemployment rate based upon a household survey was available. During World War II, the War Manpower Commission published statistics on local labor market conditions. The process of reporting state unemployment statistics, however, was not systematically performed until 1961 when the Bureau of Employment Security started releasing a monthly newsletter. Prior to this, some states had released local employment statistics in their own newsletters.

As the national economy became more complex, a single measure of unemployment was found inadequate. In fact, many now challenge the ability of unemployment rates to measure economic hardship or labor market tightness. To help analysts better evaluate the employment situation, seven measures of national unemployment are now computed by the Bureau of Labor Statistics (BLS). The following graphs present them, and compare the "official" U.S. unemployment rate to that of Alaska.

U1NSA — Measures long term unemployment, which is persons unemployed fifteen weeks or longer as a percent of the civilian labor force.

U2SA — Measures job losers as a percent of the civilian labor force.

U3NSA — Measures adult unemployment which is unemployed persons 25 years and over as a percent of the civilian labor force.

U4NSA — Measures unemployed full-time jobseekers as a percent of the full-time labor force.

U5NSA — Measures the official unemployment rate, which is total unemployment as a percent of the civilian labor force.

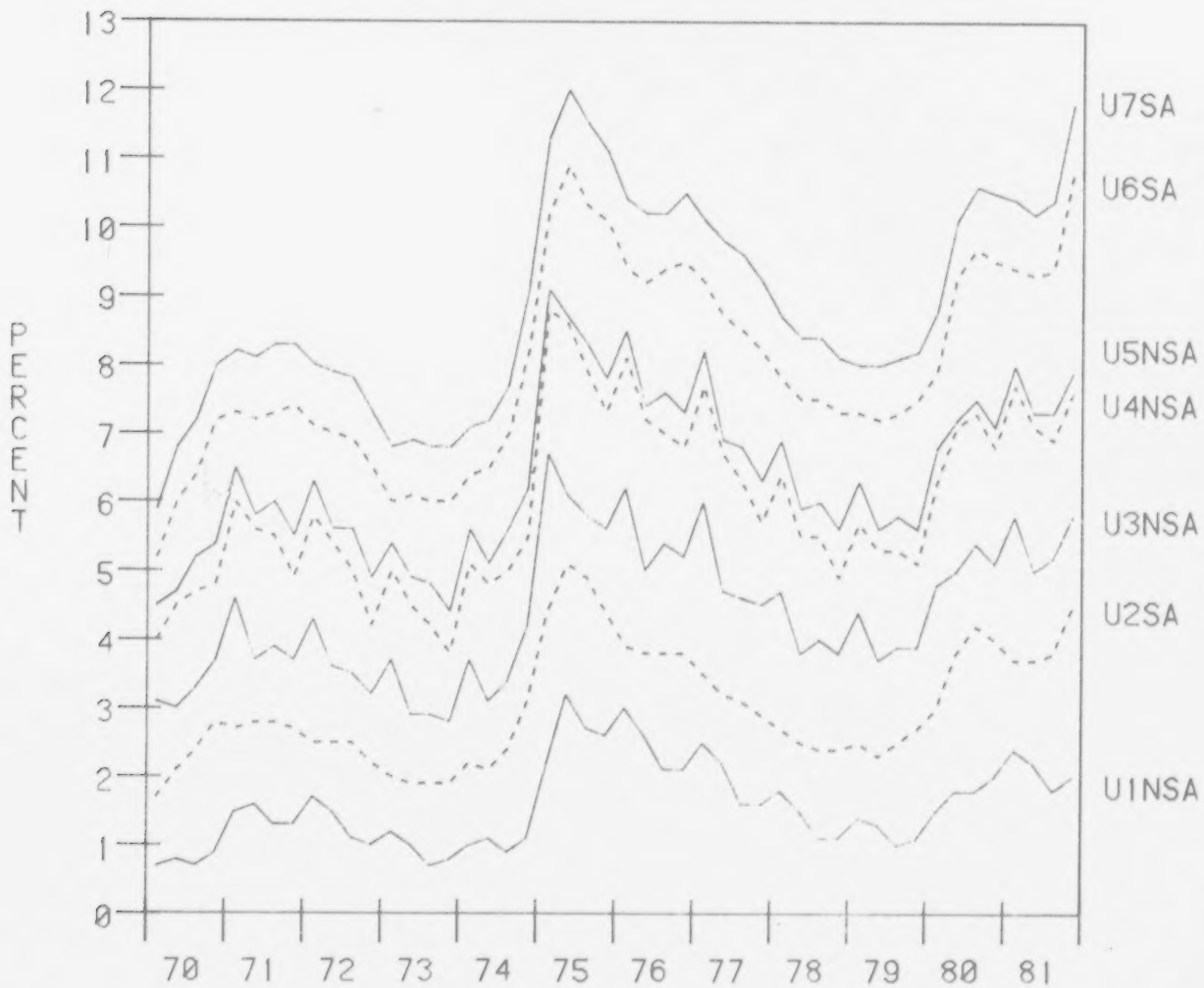
U6SA — Includes those who desire full-time employment, but can only find part-time employment or are unemployed and seeking part-time employment, which is total full-time jobseekers plus half part-time jobseekers, plus half total on part-time for economic reasons as a percent of the civilian labor force, less half of the part-time labor force.

U7SA — Includes the unemployed counted in U6SA plus discouraged workers. Discouraged workers are those unemployed who would like to work but are not looking for employment since they believe no work is available. Except for U7SA, the unemployment rate measures depend upon observed events. Classification of discouraged workers, however, is based upon an evaluation made by the unemployed individuals. Even with the difference in collection methodology, there still remains a high correlation between the official index, U5NSA and U7SA.

These statistics and others are available upon request from the Division of Budget and Management or they can be received monthly from the U.S. Department of Labor, BLS, Washington D.C. 20212.

The seasonally unadjusted unemployment rates for Alaska and the U.S. are presented in the figure entitled "Alaska and U.S. Unemployment Rates." Two points are of interest. First, since 1976, only once has the Alaskan unemployment rate been below the U.S. rate. Second, there has been a relatively strong first-quarter upswing in Alaska's unemployment rate. These are persistent characteristics of the Alaskan economy reflecting the limited employment base, rapid population growth, and seasonal nature of many Alaskan industries.

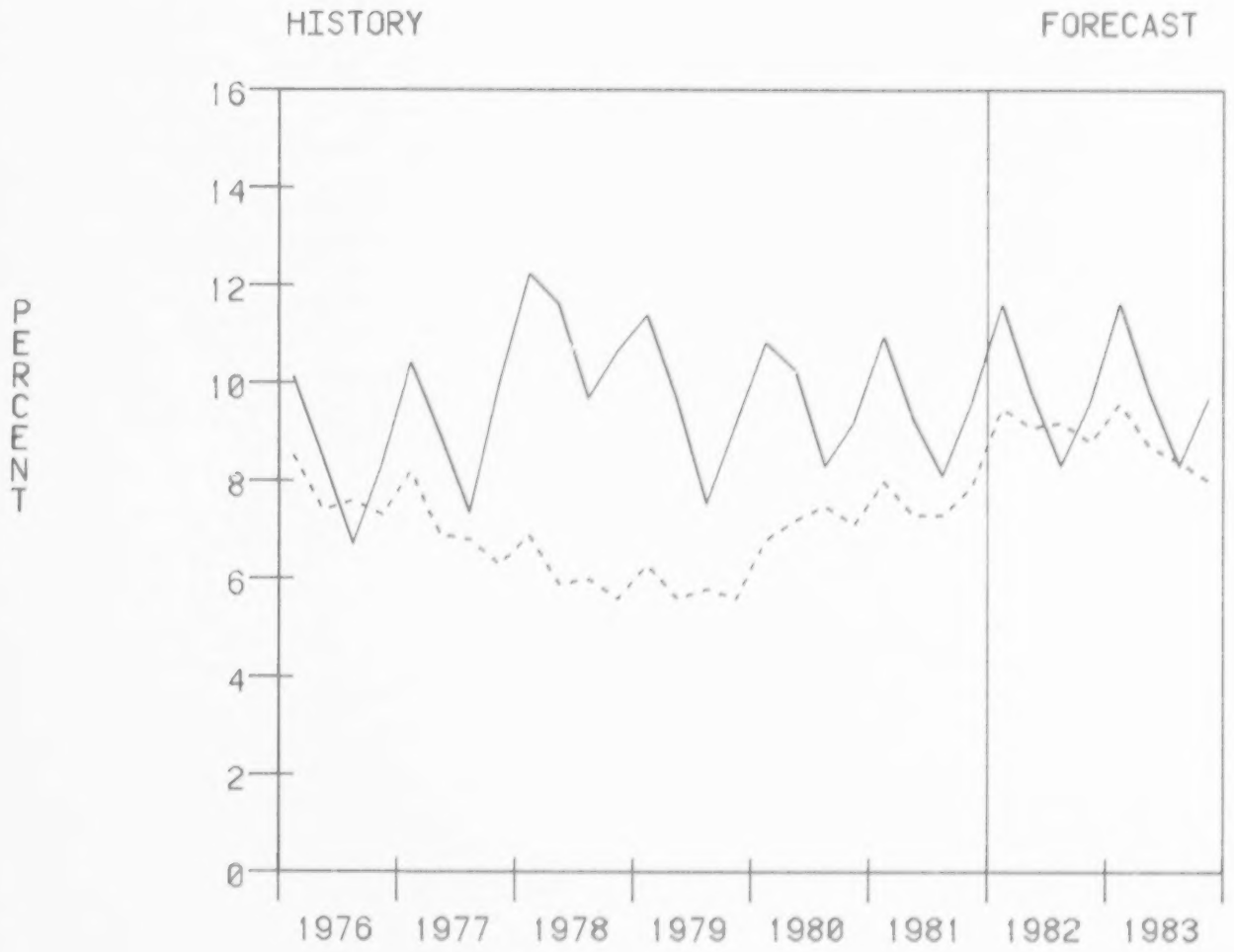
ALTERNATIVE MEASURES OF U.S. UNEMPLOYMENT RATE



ALASKA RATE

U.S RATE

ALASKA AND U.S. UNEMPLOYMENT RATES



APPENDIX

Historical employment and income data published in the following tables have been updated to correspond with revisions released by the Alaska Department of Labor, and the U.S. Department of Commerce, Bureau of Economic Analysis.

NOTES

Nonagricultural Employment Data Are Estimated for the Fourth Quarter, 1980 through the Third Quarter, 1981

As forecasts are extended farther into the future, the accuracy of the forecast diminishes. Therefore, it is important to obtain historical data to the latest available date, and to use estimates of historical data if such estimates appear to be reasonably accurate.

The latest available **actual** Alaska nonagricultural wage and salary data are for the third quarter of 1980. These data are contained in the Alaska Department of Labor's (ADOL) "Statistical Quarterly." The ADOL also publishes **estimated** nonagricultural wage and salary employment numbers in the monthly "Alaska Economic Trends." The numbers contained in "Trends" have been combined with prior AEIRS forecasts to obtain estimated employment on a quarterly basis by industrial category (SIC code) consistent with both the AEIRS model and with prior historical patterns. These estimates are made for the fourth quarter of 1980 through the third quarter of 1981. For an explanation of the details of the procedure used to make these estimates, the interested reader should contact Elliot Wetzler at Budget and Management.

BASE CASE FORECAST

TABLE I
STATE OF ALASKA
POPULATION, LABOR FORCE, AND EMPLOYMENT

POPULATION AND LABOR FORCE (THOUSANDS, NOT SEASONALLY ADJUSTED)

	1978:1	1978:2	1978:3	1978:4	ANNUAL AVERAGE 1978	1979:1	1979:2	1979:3	1979:4	ANNUAL AVERAGE 1979
POPULATION (TRENDED)	410.7	410.8	411.2	410.3	410.8	408.1	406.4	406.2	404.2	406.2
LABOR FORCE (CPS BASIS)	171.9	185.7	186.8	179.6	181.0	171.1	183.7	190.3	178.9	181.0
EMPLOYMENT (CPS BASIS)	150.9	164.1	168.7	160.4	161.0	151.6	165.9	176.0	162.5	164.0
UNEMPLOYMENT (CPS BASIS)	21.1	21.6	18.1	19.2	20.0	19.5	17.8	14.4	16.4	17.0
UNEMPLOYMENT RATE (PERCENT, CPS BASIS)	12.3	11.6	9.7	10.7	11.1	11.4	9.7	7.5	9.2	9.4

NOTE: CPS = CURRENT POPULATION SURVEY

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT (NOT SEASONALLY ADJUSTED)

MINING (SIC 10-14)	5,380	5,782	5,698	5,390	5,563	5,642	5,903	5,919	5,626	5,773
CONTRACT CONSTRUCTION (SIC 15-17)	10,226	12,572	14,817	11,345	12,240	7,461	9,846	12,806	10,253	10,092
MANUFACTURING (SIC 20,22-39)	8,325	11,922	16,091	9,587	11,481	7,800	13,139	18,821	11,511	12,818
LOGGING AND SAWMILLS (SIC 241-242)	903	2,024	2,151	1,656	1,684	971	2,034	2,687	2,257	1,987
PAPER AND PULP PRODUCTS (SIC 26)	1,168	1,197	1,190	750	1,076	1,066	1,248	1,033	1,017	1,091
FISH AND SEAFOOD PROCESSING (SIC 209)	3,681	5,862	9,584	4,350	5,869	3,317	6,840	11,736	5,223	6,779
OTHER MANUFACTURING	2,573	2,839	3,166	2,831	2,852	2,446	3,017	3,365	3,014	2,961
TRANS,COMM,& PUB UTIL (SIC 40-42,44-49)	15,507	16,542	17,521	15,945	16,379	15,609	16,726	17,831	16,650	16,704
TRUCKING (SIC 421)	2,050	2,147	2,257	1,879	2,083	1,813	1,761	1,799	1,648	1,755
WATER TRANSPORTATION (SIC 44)	830	1,376	1,359	1,109	1,169	916	1,292	1,477	1,255	1,235
AIR TRANSPORTATION (SIC 45)	4,228	4,431	4,871	4,565	4,524	4,475	5,041	5,475	5,008	5,000
OTHER TRANSPORTATION	3,227	3,067	3,375	2,913	3,146	2,812	2,987	3,347	3,065	3,053
COMMUNICATIONS (SIC 48)	3,905	4,028	4,163	4,112	4,052	4,214	4,224	4,289	4,301	4,257
PUBLIC UTILITIES (SIC 49)	1,267	1,493	1,496	1,367	1,406	1,379	1,421	1,444	1,373	1,404
WHOLESALE TRADE (SIC 50-51)	5,531	5,743	5,988	5,621	5,721	5,289	5,679	5,735	5,340	5,511
RETAIL TRADE (SIC 52-59)	21,638	23,197	24,161	23,431	23,107	22,879	24,098	24,901	24,030	23,977
FINANCE,INSUR,& REAL ESTATE (SIC 60-67)	8,442	7,966	8,341	8,163	8,228	8,093	8,208	8,021	7,819	8,035
SERVICES (SIC 70-89)	25,805	27,778	29,540	27,299	27,606	27,558	28,658	29,807	26,982	28,251
GOVERNMENT	51,761	53,061	49,427	55,085	52,334	54,886	55,814	50,828	56,603	54,533
FEDERAL	17,501	18,055	18,720	18,396	18,168	17,516	17,816	18,641	17,688	17,915
STATE	13,842	14,275	14,440	14,829	14,347	14,652	15,041	15,059	15,155	14,977
LOCAL	20,418	20,731	16,267	21,860	19,819	22,718	22,957	17,128	23,760	21,641
MISCELLANEOUS EMPLOYMENT	515	493	967	159	534	478	920	975	1,052	856
TOTAL	153,130	165,056	172,551	162,025	163,191	155,695	168,991	175,644	165,866	166,549

FORECAST PERIODS ARE: POPULATION (1981:3 TO 1983:4)
LABOR FORCE (1982:1 TO 1983:4)
NONAGRICULTURAL EMPLOYMENT (1981:4 TO 1983:4)

NOTE: SIC = STANDARD INDUSTRIAL CLASSIFICATION
PAPER AND PULP EMPLOYMENT FOR 1978:4, 1979:1 IS ESTIMATED.

BASE CASE FORECAST

TABLE I
STATE OF ALASKA
POPULATION, LABOR FORCE, AND EMPLOYMENT

POPULATION AND LABOR FORCE (THOUSANDS, NOT SEASONALLY ADJUSTED)

	1980:1	1980:2	1980:3	1980:4	ANNUAL AVERAGE 1980	1981:1	1981:2	1981:3	1981:4	ANNUAL AVERAGE 1981
POPULATION (TRENDED)	402.3	400.5	408.2	411.6	405.6	415.1	418.6	422.1	424.7	420.1
LABOR FORCE (CPS BASIS)	173.5	191.3	197.1	186.1	187.0	180.2	191.6	202.5	201.5	193.9
EMPLOYMENT (CPS BASIS)	154.7	171.7	180.7	169.0	169.0	160.4	173.9	186.1	182.1	175.6
UNEMPLOYMENT (CPS BASIS)	18.8	19.6	16.4	17.2	18.0	19.8	17.7	16.4	19.4	18.3
UNEMPLOYMENT RATE (PERCENT, CPS BASIS)	10.8	10.3	8.3	9.2	9.7	11.0	9.3	8.1	9.6	9.5

NOTE: CPS = CURRENT POPULATION SURVEY

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT (NOT SEASONALLY ADJUSTED)

MINING (SIC 10-14)	5,957	6,440	6,879	6,794	6,518	7,387	7,785	8,319	8,232	7,931
CONTRACT CONSTRUCTION (SIC 15-17)	7,311	10,474	14,044	11,044	10,718	8,814	13,208	17,038	12,304	12,841
MANUFACTURING (SIC 20,22-39)	9,767	14,331	20,404	12,236	14,185	9,286	13,868	18,614	10,929	13,174
LOGGING AND SAWMILLS (SIC 241-242)	1,694	2,769	2,806	2,110	2,345	1,377	2,150	2,233	1,754	1,879
PAPER AND PULP PRODUCTS (SIC 26)	1,033	1,025	1,086	1,025	1,042	980	1,088	1,107	951	1,031
FISH AND SEAFOOD PROCESSING (SIC 209)	4,172	7,376	12,961	5,825	7,584	3,978	7,281	12,504	5,128	7,223
OTHER MANUFACTURING	2,868	3,161	3,551	3,276	3,214	2,951	3,349	2,770	3,095	3,041
TRANS,COMM,& PUB UTIL (SIC 40-42,44-49)	16,056	17,320	18,271	17,627	17,319	16,487	17,788	19,268	18,204	17,937
TRUCKING (SIC 421)	1,713	1,901	2,019	1,797	1,858	1,883	2,077	2,217	2,049	2,057
WATER TRANSPORTATION (SIC 44)	1,110	1,478	1,596	1,315	1,375	1,084	1,463	1,676	1,422	1,411
AIR TRANSPORTATION (SIC 45)	4,914	5,313	5,555	5,338	5,280	5,049	5,540	5,906	5,620	5,529
OTHER TRANSPORTATION	2,747	2,877	3,231	3,083	2,985	2,804	2,977	3,323	3,197	3,075
COMMUNICATIONS (SIC 48)	4,246	4,401	4,461	4,314	4,356	4,378	4,509	4,611	4,405	4,476
PUBLIC UTILITIES (SIC 49)	1,326	1,350	1,409	1,391	1,369	1,389	1,440	1,523	1,511	1,466
WHOLESALE TRADE (SIC 50-51)	5,163	5,482	5,768	5,509	5,481	5,292	5,677	5,952	5,559	5,620
RETAIL TRADE (SIC 52-59)	21,767	23,719	25,635	24,942	24,016	23,419	25,112	26,686	26,085	25,325
FINANCE,INSUR,& REAL ESTATE (SIC 60-67)	7,665	7,731	7,939	7,794	7,782	7,654	7,884	8,214	8,184	7,984
SERVICES (SIC 70-89)	27,715	30,263	31,389	29,311	29,670	29,127	31,130	32,715	31,164	31,034
GOVERNMENT	53,890	54,938	50,506	56,721	54,014	56,177	56,928	52,350	57,999	55,863
FEDERAL	16,871	18,372	18,596	17,905	17,936	17,317	18,161	18,715	18,076	18,067
STATE	15,032	15,078	15,202	15,732	15,261	15,998	16,012	16,058	16,478	16,137
LOCAL	21,987	21,488	16,708	22,684	20,717	22,462	22,355	17,177	23,445	21,360
MISCELLANEOUS EMPLOYMENT	613	896	1,190	658	839	631	933	1,255	527	836
TOTAL	155,904	171,594	182,025	172,636	170,540	164,274	180,313	190,411	179,186	178,546

FORECAST PERIODS ARE: POPULATION (1981:3 TO 1983:4)
LABOR FORCE (1982:1 TO 1983:4)
NONAGRICULTURAL EMPLOYMENT (1981:4 TO 1983:4)

NOTE: SIC = STANDARD INDUSTRIAL CLASSIFICATION
SEE APPENDIX DISCUSSION IN THIS REPORT REGARDING ESTIMATION PROCEDURE USED FOR 1980:4-1981:3 NONAGRICULTURAL EMPLOYMENT.

BASE CASE PERMANENT FUND DIVIDEND PROGRAM

TABLE I
STATE OF ALASKA
POPULATION, LABOR FORCE, AND EMPLOYMENT

POPULATION AND LABOR FORCE (THOUSANDS, NOT SEASONALLY ADJUSTED)

	1982:1	1982:2	1982:3	1982:4	ANNUAL AVERAGE 1982	1983:1	1983:2	1983:3	1983:4	ANNUAL AVERAGE 1983
POPULATION (TRENDED)	428.1	430.5	432.2	434.8	431.4	436.6	438.5	440.4	442.0	439.4
LABOR FORCE (CPS BASIS)	200.3	210.3	212.1	209.2	208.0	204.6	214.7	216.6	211.9	212.0
EMPLOYMENT (CPS BASIS)	177.0	189.6	194.5	189.0	187.5	180.8	193.6	198.6	191.4	191.1
UNEMPLOYMENT (CPS BASIS)	23.3	20.7	17.6	20.2	20.5	23.8	21.1	18.0	20.5	20.9
UNEMPLOYMENT RATE (PERCENT, CPS BASIS)	11.6	9.8	8.3	9.7	9.9	11.6	9.8	8.3	9.7	9.9

NOTE: CPS = CURRENT POPULATION SURVEY

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT (NOT SEASONALLY ADJUSTED)

MINING (SIC 10-14)	8,215	8,555	8,789	8,203	8,440	8,013	8,542	8,990	8,530	8,519
CONTRACT CONSTRUCTION (SIC 15-17)	11,143	14,549	16,599	13,607	13,975	10,905	14,582	16,920	13,650	14,014
MANUFACTURING (SIC 20,22-39)	8,723	12,831	17,139	10,708	12,350	9,249	13,502	18,131	11,075	12,989
LOGGING AND SAWMILLS (SIC 241-242)	1,344	2,090	2,328	1,839	1,900	1,497	2,387	2,561	1,986	2,108
PAPER AND PULP PRODUCTS (SIC 26)	996	1,195	1,213	1,131	1,134	1,170	1,248	1,242	1,150	1,202
FISH AND SEAFOOD PROCESSING (SIC 209)	3,272	6,048	9,904	4,319	5,886	3,411	6,297	10,555	4,456	6,180
OTHER MANUFACTURING	3,111	3,498	3,694	3,418	3,430	3,170	3,570	3,774	3,483	3,499
TRANS,COMM,& PUB UTIL (SIC 40-42,44-49)	17,259	18,437	20,087	19,094	13,719	17,937	19,191	20,623	19,444	19,298
TRUCKING (SIC 421)	2,228	2,369	2,494	2,262	2,338	2,342	2,477	2,579	2,266	2,416
WATER TRANSPORTATION (SIC 44)	1,130	1,379	1,732	1,503	1,436	1,193	1,460	1,787	1,501	1,485
AIR TRANSPORTATION (SIC 45)	5,215	5,647	5,908	5,799	5,642	5,428	5,876	6,149	6,035	5,872
OTHER TRANSPORTATION	2,870	2,920	3,647	3,422	3,214	2,929	2,992	3,545	3,328	3,199
COMMUNICATIONS (SIC 48)	4,335	4,571	4,704	4,556	4,542	4,514	4,777	4,907	4,722	4,730
PUBLIC UTILITIES (SIC 49)	1,481	1,551	1,602	1,553	1,547	1,531	1,608	1,655	1,592	1,597
WHOLESALE TRADE (SIC 50-51)	5,812	6,116	6,463	6,200	6,148	6,133	6,410	6,661	6,277	6,370
RETAIL TRADE (SIC 52-59)	25,368	26,874	28,187	27,548	26,994	26,486	27,918	28,935	27,952	27,823
FINANCE,INSUR,& REAL ESTATE (SIC 60-67)	8,037	8,170	8,505	8,311	8,256	8,184	8,263	8,541	8,252	8,310
SERVICES (SIC 70-89)	30,345	31,854	32,681	32,120	31,750	31,325	32,863	33,652	32,845	32,671
GOVERNMENT	57,619	58,128	53,226	59,375	57,087	57,863	58,266	53,075	58,895	57,025
FEDERAL	17,978	18,336	18,642	18,340	18,324	17,918	18,321	18,678	18,375	18,323
STATE	16,248	16,163	16,191	16,241	16,211	16,180	16,023	15,989	15,961	16,038
LOCAL	23,393	23,629	18,393	24,794	22,552	23,765	23,921	18,408	24,559	22,663
MISCELLANEOUS EMPLOYMENT	402	643	1,095	537	669	415	663	1,123	553	690
TOTAL	172,924	186,157	192,770	185,703	184,389	176,510	190,200	196,656	187,473	187,710

FORECAST PERIODS ARE: POPULATION (1981:3 TO 1983:4)
LABOR FORCE (1982:1 TO 1983:4)
NONAGRICULTURAL EMPLOYMENT (1981:4 TO 1983:4)

NOTE: SIC = STANDARD INDUSTRIAL CLASSIFICATION

MODIFIED BASE CASE (EXCLUDES PERMANENT FUND DIVIDEND PROGRAM)

TABLE I
STATE OF ALASKA
POPULATION, LABOR FORCE, AND EMPLOYMENT

POPULATION AND LABOR FORCE (THOUSANDS, NOT SEASONALLY ADJUSTED)

	1982:1	1982:2	1982:3	1982:4	ANNUAL AVERAGE 1982	1983:1	1983:2	1983:3	1983:4	ANNUAL AVERAGE 1983
POPULATION (TRENDED)	428.1	430.5	432.0	434.0	431.2	435.7	437.4	439.2	440.9	438.3
LABOR FORCE (CPS BASIS)	200.3	210.3	212.1	208.4	207.8	204.2	214.0	216.0	211.3	211.4
EMPLOYMENT (CPS BASIS)	177.0	189.6	194.3	188.1	187.3	180.3	192.9	197.9	190.7	190.5
UNEMPLOYMENT (CPS BASIS)	23.3	20.7	17.7	20.3	20.5	23.9	21.1	18.1	20.6	20.9
UNEMPLOYMENT RATE (PERCENT, CPS BASIS)	11.6	9.8	8.4	9.7	9.9	11.7	9.9	8.4	9.8	9.9

NOTE: CPS = CURRENT POPULATION SURVEY

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT (NOT SEASONALLY ADJUSTED)

MINING (SIC 10-14)	8,215	8,555	8,788	8,202	8,440	8,013	8,541	8,990	8,530	8,518
CONTRACT CONSTRUCTION (SIC 15-17)	11,143	14,549	16,539	13,512	13,936	10,798	14,408	16,790	13,580	13,894
MANUFACTURING (SIC 20,22-39)	8,723	12,831	17,138	10,705	12,349	9,245	13,497	18,126	11,070	12,985
LOGGING AND SAWMILLS (SIC 241-242)	1,344	2,090	2,328	1,839	1,900	1,497	2,387	2,561	1,986	2,108
PAPER AND PULP PRODUCTS (SIC 26)	996	1,195	1,213	1,131	1,134	1,170	1,248	1,242	1,150	1,202
FISH AND SEAFOOD PROCESSING (SIC 209)	3,272	6,048	9,904	4,319	5,886	3,411	6,297	10,555	4,456	6,180
OTHER MANUFACTURING	3,111	3,498	3,694	3,415	3,429	3,167	3,566	3,768	3,479	3,495
TRANS,COMM,& PUB UTIL (SIC 40-42,44-49)	17,259	18,437	19,830	18,778	18,576	17,760	18,970	20,404	19,293	19,106
TRUCKING (SIC 421)	2,228	2,369	2,468	2,199	2,316	2,290	2,419	2,538	2,245	2,373
WATER TRANSPORTATION (SIC 44)	1,130	1,379	1,707	1,458	1,419	1,149	1,398	1,727	1,472	1,437
AIR TRANSPORTATION (SIC 45)	5,215	5,647	5,908	5,799	5,642	5,428	5,876	6,149	6,035	5,872
OTHER TRANSPORTATION	2,870	2,920	3,453	3,247	3,122	2,897	2,961	3,502	3,290	3,162
COMMUNICATIONS (SIC 48)	4,335	4,571	4,695	4,531	4,533	4,476	4,725	4,850	4,673	4,681
PUBLIC UTILITIES (SIC 49)	1,481	1,551	1,599	1,545	1,544	1,519	1,591	1,638	1,578	1,581
WHOLESALE TRADE (SIC 50-51)	5,812	6,116	6,412	6,094	6,108	6,016	6,279	6,564	6,227	6,272
RETAIL TRADE (SIC 52-59)	25,368	26,874	28,059	27,297	26,900	26,219	27,612	28,713	27,839	27,596
FINANCE,INSUR,& REAL ESTATE (SIC 60-67)	8,037	8,170	8,450	8,181	8,209	8,000	8,022	8,264	7,986	8,068
SERVICES (SIC 70-89)	30,345	31,854	32,545	31,918	31,666	31,200	32,709	33,437	32,626	32,493
GOVERNMENT	57,619	58,128	52,582	58,512	56,710	57,678	58,077	52,271	57,826	56,463
FEDERAL	17,978	18,336	18,642	18,340	18,324	17,918	18,321	18,678	18,375	18,323
STATE	16,248	16,163	16,191	16,241	16,211	16,180	16,023	15,989	15,961	16,038
LOCAL	23,393	23,629	17,749	23,931	22,176	23,580	23,733	17,604	23,489	22,102
MISCELLANEOUS EMPLOYMENT	402	643	1,095	537	669	415	663	1,128	553	690
TOTAL	172,924	186,157	191,438	183,736	183,564	175,345	188,778	194,687	185,530	186,085

FORECAST PERIODS ARE: POPULATION (1981:3 TO 1983:4)
LABOR FORCE (1982:1 TO 1983:4)
NONAGRICULTURAL EMPLOYMENT (1981:4 TO 1983:4)

NOTE: SIC = STANDARD INDUSTRIAL CLASSIFICATION

PESSIMISTIC FORECAST

TABLE I
STATE OF ALASKA
POPULATION, LABOR FORCE, AND EMPLOYMENT

POPULATION AND LABOR FORCE (THOUSANDS, NOT SEASONALLY ADJUSTED)

	1982:1	1982:2	1982:3	1982:4	ANNUAL AVERAGE 1982	1983:1	1983:2	1983:3	1983:4	ANNUAL AVERAGE 1983
POPULATION (TRENDED)	427.2	428.8	429.8	431.3	429.3	432.7	434.2	435.8	437.2	435.0
LABOR FORCE (CPS BASIS)	198.3	206.6	209.7	206.5	205.3	201.0	210.2	214.2	209.4	208.7
EMPLOYMENT (CPS BASIS)	175.1	186.2	191.8	186.2	184.8	177.1	189.1	195.7	188.4	187.6
UNEMPLOYMENT (CPS BASIS)	23.1	20.4	17.8	20.4	20.4	23.9	21.1	18.5	21.1	21.1
UNEMPLOYMENT RATE (PERCENT, CPS BASIS)	11.7	9.9	8.5	9.9	10.0	11.9	10.0	8.6	10.1	10.2

NOTE: CPS = CURRENT POPULATION SURVEY

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT (NOT SEASONALLY ADJUSTED)

MINING (SIC 10-14)	8,063	8,229	8,256	7,767	8,079	7,644	8,030	8,295	8,023	7,998
CONTRACT CONSTRUCTION (SIC 15-17)	10,963	13,927	15,856	12,921	13,417	9,579	12,734	14,838	12,238	12,347
MANUFACTURING (SIC 20,22-39)	8,272	11,626	15,377	10,231	11,376	8,821	13,037	17,688	10,622	12,542
LOGGING AND SAWMILLS (SIC 241-242)	1,281	1,980	2,180	1,663	1,776	1,297	2,169	2,327	1,740	1,883
PAPER AND PULP PRODUCTS (SIC 26)	986	1,182	1,200	1,120	1,122	1,158	1,235	1,228	1,139	1,190
FISH AND SEAFOOD PROCESSING (SIC 209)	2,972	5,048	8,388	4,119	5,132	3,286	6,157	10,455	4,356	6,063
OTHER MANUFACTURING	3,032	3,416	3,609	3,329	3,347	3,080	3,476	3,678	3,388	3,405
TRANS,COMM,& PUB UTIL (SIC 40-42,44-49)	16,928	18,047	19,396	18,362	18,183	17,355	18,525	19,912	18,822	18,654
TRUCKING (SIC 421)	2,132	2,275	2,377	2,114	2,224	2,203	2,329	2,444	2,148	2,281
WATER TRANSPORTATION (SIC 44)	1,094	1,319	1,624	1,388	1,356	1,092	1,323	1,632	1,396	1,361
AIR TRANSPORTATION (SIC 45)	5,085	5,505	5,761	5,654	5,501	5,292	5,729	5,995	5,884	5,725
OTHER TRANSPORTATION	2,822	2,865	3,394	3,191	3,068	2,838	2,901	3,433	3,226	3,100
COMMUNICATIONS (SIC 48)	4,317	4,536	4,648	4,477	4,495	4,417	4,657	4,777	4,599	4,612
PUBLIC UTILITIES (SIC 49)	1,479	1,547	1,593	1,539	1,540	1,513	1,584	1,630	1,570	1,575
WHOLESALE TRADE (SIC 50-51)	5,708	5,998	6,292	5,979	5,994	5,891	6,141	6,412	6,073	6,129
RETAIL TRADE (SIC 52-59)	25,115	26,574	27,762	27,022	26,618	25,945	27,301	28,364	27,501	27,278
FINANCE,INSUR,& REAL ESTATE (SIC 60-67)	7,980	8,058	8,324	8,047	8,102	7,865	7,882	8,115	7,837	7,925
SERVICES (SIC 70-89)	30,101	31,401	31,969	31,476	31,237	30,583	31,965	32,607	31,831	31,746
GOVERNMENT	57,024	57,274	51,540	57,251	55,772	55,537	55,651	49,770	54,994	53,988
FEDERAL	17,881	18,137	18,334	17,931	18,071	17,430	17,723	17,958	17,566	17,669
STATE	16,151	15,963	15,877	15,844	15,959	15,697	15,423	15,361	15,167	15,412
LOCAL	22,992	23,174	17,329	23,476	21,743	22,410	22,505	16,450	22,261	20,907
MISCELLANEOUS EMPLOYMENT	396	633	1,078	529	659	409	653	1,112	545	680
TOTAL	170,549	181,768	185,851	179,584	179,438	169,629	181,919	187,112	178,485	179,286

FORECAST PERIODS ARE: POPULATION (1981:3 TO 1983:4)
LABOR FORCE (1982:1 TO 1983:4)
NONAGRICULTURAL EMPLOYMENT (1981:4 TO 1983:4)

NOTE: SIC = STANDARD INDUSTRIAL CLASSIFICATION

OPTIMISTIC FORECAST

TABLE I
STATE OF ALASKA
POPULATION, LABOR FORCE, AND EMPLOYMENT

POPULATION AND LABOR FORCE (THOUSANDS, NOT SEASONALLY ADJUSTED)

	1982:1	1982:2	1982:3	1982:4	ANNUAL AVERAGE 1982	1983:1	1983:2	1983:3	1983:4	ANNUAL AVERAGE 1983
POPULATION (TRENDED)	429.3	433.8	437.8	443.2	436.0	446.0	448.6	450.6	452.6	449.5
LABOR FORCE (CPS BASIS)	202.2	213.1	215.2	212.4	210.7	208.6	220.1	222.3	217.0	217.0
EMPLOYMENT (CPS BASIS)	178.7	192.4	197.8	192.1	190.2	184.6	198.7	204.2	196.3	195.9
UNEMPLOYMENT (CPS BASIS)	23.5	20.7	17.4	20.3	20.5	24.0	21.4	18.2	20.7	21.1
UNEMPLOYMENT RATE (PERCENT, CPS BASIS)	11.6	9.7	8.1	9.5	9.7	11.5	9.7	8.2	9.5	9.7

NOTE: CPS = CURRENT POPULATION SURVEY

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT (NOT SEASONALLY ADJUSTED)

MINING (SIC 10-14)	8,368	8,882	9,323	8,639	8,803	8,382	9,053	9,685	9,038	9,040
CONTRACT CONSTRUCTION (SIC 15-17)	11,477	15,277	17,676	14,460	14,723	12,392	16,379	18,963	15,035	15,692
MANUFACTURING (SIC 20,22-39)	9,373	15,004	20,880	11,905	14,292	9,901	14,750	20,246	12,298	14,299
LOGGING AND SAWMILLS (SIC 241-242)	1,488	2,286	2,526	2,084	2,096	1,764	2,687	2,894	2,347	2,423
PAPER AND PULP PRODUCTS (SIC 26)	1,006	1,208	1,227	1,144	1,146	1,183	1,262	1,255	1,162	1,216
FISH AND SEAFOOD PROCESSING (SIC 209)	3,694	7,922	13,333	5,149	7,524	3,673	7,111	12,201	5,186	7,043
OTHER MANUFACTURING	3,190	3,588	3,794	3,528	3,525	3,281	3,689	3,896	3,603	3,617
TRANS,COMM,& PUB UTIL (SIC 40-42,44-49)	17,555	18,806	20,534	19,561	19,114	18,340	19,638	21,110	19,905	19,749
TRUCKING (SIC 421)	2,317	2,489	2,628	2,425	2,465	2,444	2,578	2,661	2,346	2,507
WATER TRANSPORTATION (SIC 44)	1,167	1,442	1,821	1,579	1,502	1,256	1,545	1,898	1,592	1,573
AIR TRANSPORTATION (SIC 45)	5,319	5,759	6,026	5,915	5,755	5,536	5,994	6,272	6,155	5,989
OTHER TRANSPORTATION	2,928	2,976	3,724	3,495	3,281	3,008	3,071	3,641	3,415	3,284
COMMUNICATIONS (SIC 48)	4,340	4,583	4,725	4,585	4,558	4,551	4,826	4,964	4,784	4,781
PUBLIC UTILITIES (SIC 49)	1,483	1,555	1,609	1,563	1,553	1,545	1,624	1,675	1,613	1,614
WHOLESALE TRADE (SIC 50-51)	5,878	6,192	6,561	6,321	6,238	6,253	5,542	6,786	6,392	6,493
RETAIL TRADE (SIC 52-59)	25,370	26,895	28,274	27,682	27,055	26,628	28,096	29,125	28,140	27,997
FINANCE,INSUR,& REAL ESTATE (SIC 60-67)	8,096	8,283	8,678	8,527	8,396	8,443	8,568	8,902	8,641	8,638
SERVICES (SIC 70-89)	30,549	32,329	33,486	32,690	32,264	31,993	33,752	34,761	33,866	33,593
GOVERNMENT	57,949	58,556	53,890	60,342	57,684	59,207	59,936	54,818	61,123	58,771
FEDERAL	17,998	18,356	18,764	18,570	18,422	18,084	18,591	19,058	18,855	18,647
STATE	16,268	16,183	16,317	16,460	16,307	16,345	16,293	16,272	16,428	16,334
LOCAL	23,684	24,017	18,809	25,312	22,956	24,779	25,052	19,488	25,841	23,790
MISCELLANEOUS EMPLOYMENT	412	659	1,122	551	686	425	680	1,157	567	707
TOTAL	175,033	190,882	200,424	190,679	189,254	181,964	197,393	205,554	195,007	194,980

FORECAST PERIODS ARE: POPULATION (1981:3 TO 1983:4)
LABOR FORCE (1982:1 TO 1983:4)
NONAGRICULTURAL EMPLOYMENT (1981:4 TO 1983:4)

NOTE: SIC = STANDARD INDUSTRIAL CLASSIFICATION

BASE CASE FORECAST

TABLE II
STATE OF ALASKA
INCOME, PRICES, AND WAGES

INCOME (BILLIONS OF DOLLARS, SEASONALLY ADJUSTED, ANNUAL RATE)

	1978:1	1978:2	1978:3	1978:4	ANNUAL AVERAGE 1978	1979:1	1979:2	1979:3	1979:4	ANNUAL AVERAGE 1979
WAGES AND SALARIES	3.676	3.598	3.571	3.692	3.634	3.718	3.674	3.761	3.904	3.764
PLUS: OTHER LABOR INCOME	0.296	0.293	0.302	0.307	0.300	0.309	0.322	0.342	0.358	0.333
PLUS: PROPRIETORS' INCOME	0.232	0.231	0.238	0.247	0.237	0.245	0.245	0.263	0.274	0.257
PLUS: PROPERTY INCOME	0.308	0.306	0.310	0.318	0.311	0.334	0.350	0.366	0.388	0.360
PLUS: TRANSFER PAYMENTS	0.350	0.353	0.389	0.375	0.367	0.345	0.358	0.391	0.375	0.367
PLUS: RESIDENCE ADJUSTMENT	-0.319	-0.307	-0.308	-0.307	-0.310	-0.282	-0.282	-0.295	-0.305	-0.291
LESS: EMPLOYEE CONTRIBUTIONS SOC INS	0.228	0.221	0.225	0.229	0.226	0.249	0.250	0.262	0.272	0.258
EQUALS:PERSONAL INCOME,RESIDENCE BASIS	4.315	4.253	4.277	4.403	4.312	4.420	4.417	4.566	4.722	4.531

CONSUMER PRICE INDICES-ANCHORAGE (1967=1.000)

APPAREL AND UPKEEP	1.546	1.581	1.594	1.612	1.583	1.578	1.579	1.642	1.689	1.622
FOOD AND BEVERAGES	2.115	2.211	2.248	2.294	2.217	2.385	2.425	2.485	2.519	2.453
ENTERTAINMENT	1.838	1.874	1.885	1.902	1.874	1.903	1.896	1.927	1.973	1.925
HOUSING	1.762	1.791	1.882	1.931	1.841	1.982	2.027	2.093	2.131	2.058
TRANSPORTATION	1.687	1.750	1.792	1.822	1.763	1.844	1.906	1.995	2.052	1.949
MEDICAL CARE	2.237	2.248	2.310	2.352	2.287	2.442	2.491	2.499	2.535	2.492
OTHER GOODS AND SERVICES	1.758	1.790	1.825	1.855	1.807	1.884	1.917	1.952	1.995	1.937
ALL ITEMS	1.800	1.843	1.909	1.950	1.875	1.996	2.037	2.103	2.144	2.070

AVERAGE HOURLY EARNINGS (DOLLARS, SEASONALLY ADJUSTED)

MINING	15.15	14.79	14.60	15.67	15.05	16.68	17.39	17.74	18.86	17.67
CONTRACT CONSTRUCTION	18.28	18.12	17.84	18.66	18.22	18.67	18.73	18.93	18.62	18.74
MANUFACTURING (AEIRS DEFINITION)	10.91	10.91	11.03	11.58	11.11	11.99	11.67	11.51	12.47	11.91
WHOLESALE TRADE	8.38	8.68	8.98	9.06	8.78	9.28	9.57	9.83	9.78	9.62
RETAIL TRADE*	7.05	7.36	7.05	7.56	7.26	7.39	7.51	7.68	7.73	7.58

FORECAST PERIODS ARE: INCOME (1981:4 TO 1983:4)
PRICES (1982:2 TO 1983:4)
EARNINGS (1982:1 TO 1983:4)

*EXCEPT EATING AND DRINKING PLACES

CPI'S ARE FOR ALL URBAN CONSUMERS.

BASE CASE FORECAST

TABLE II
STATE OF ALASKA
INCOME, PRICES, AND WAGES

INCOME (BILLIONS OF DOLLARS, SEASONALLY ADJUSTED, ANNUAL RATE)

	1980:1	1980:2	1980:3	1980:4	ANNUAL AVERAGE 1980	1981:1	1981:2	1981:3	1981:4	ANNUAL AVERAGE 1981
WAGES AND SALARIES	3.981	3.875	4.051	4.319	4.057	4.452	4.610	4.793	4.886	4.685
PLUS: OTHER LABOR INCOME	0.369	0.378	0.402	0.416	0.391	0.428	0.459	0.470	0.451	0.452
PLUS: PROPRIETORS' INCOME	0.276	0.258	0.276	0.297	0.277	0.304	0.304	0.314	0.337	0.315
PLUS: PROPERTY INCOME	0.414	0.439	0.455	0.470	0.445	0.503	0.528	0.557	0.599	0.547
PLUS: TRANSFER PAYMENTS	0.383	0.392	0.646	0.667	0.522	0.458	0.470	0.500	0.538	0.491
PLUS: RESIDENCE ADJUSTMENT	-0.312	-0.307	-0.324	-0.342	-0.321	-0.351	-0.371	-0.384	-0.358	-0.366
LESS: EMPLOYEE CONTRIBUTIONS SOC INS	0.286	0.279	0.294	0.309	0.292	0.345	0.361	0.372	0.412	0.372
EQUALS:PERSONAL INCOME,RESIDENCE BASIS	4.825	4.756	5.212	5.518	5.078	5.449	5.639	5.878	6.041	5.752

CONSUMER PRICE INDICES-ANCHORAGE (1967=1.000)

APPAREL AND UPKEEP	1.690	1.759	1.825	1.850	1.781	1.857	1.872	1.858	1.885	1.868
FOOD AND BEVERAGES	2.542	2.588	2.641	2.706	2.619	2.708	2.723	2.779	2.805	2.754
ENTERTAINMENT	2.018	2.073	2.014	2.054	2.040	2.097	2.188	2.230	2.351	2.216
HOUSING	2.203	2.252	2.274	2.342	2.268	2.395	2.415	2.450	2.503	2.441
TRANSPORTATION	2.140	2.210	2.272	2.362	2.246	2.423	2.513	2.578	2.617	2.533
MEDICAL CARE	2.717	2.842	2.884	2.923	2.841	3.016	3.130	3.157	3.223	3.131
OTHER GOODS AND SERVICES	2.034	2.080	2.117	2.145	2.094	2.169	2.204	2.237	2.272	2.221
ALL ITEMS	2.209	2.263	2.297	2.362	2.282	2.406	2.443	2.483	2.530	2.466

AVERAGE HOURLY EARNINGS (DOLLARS, SEASONALLY ADJUSTED)

MINING	18.74	18.89	18.50	17.36	18.37	19.60	20.07	20.36	20.85	20.22
CONTRACT CONSTRUCTION	19.03	19.49	20.87	21.55	20.23	20.49	20.55	21.67	20.97	20.92
MANUFACTURING (AEIRS DEFINITION)	12.48	12.43	12.38	13.69	12.75	13.38	14.12	13.90	14.45	13.96
WHOLESALE TRADE	9.71	10.63	11.41	11.87	10.91	11.44	11.76	11.72	11.65	11.64
RETAIL TRADE*	8.07	8.08	8.24	8.44	8.21	8.82	8.60	8.60	8.75	8.69

FORECAST PERIODS ARE: INCOME (1981:4 TO 1983:4)
PRICES (1982:2 TO 1983:4)
EARNINGS (1982:1 TO 1983:4)

*EXCEPT EATING AND DRINKING PLACES.
TRANSFER PAYMENTS AND TOTAL PERSONAL INCOME FOR 1980:3 AND 1980:4 DIFFER FROM OFFICIAL ESTIMATES BY INCLUSION OF 1979 STATE PERSONAL INCOME TAX REBATES.

CPI'S ARE FOR ALL URBAN CONSUMERS.

BASE CASE PERMANENT FUND DIVIDEND PROGRAM

TABLE II
STATE OF ALASKA
INCOME, PRICES, AND WAGES

INCOME (BILLIONS OF DOLLARS, SEASONALLY ADJUSTED, ANNUAL RATE)

	1982:1	1982:2	1982:3	1982:4	ANNUAL AVERAGE 1982	1983:1	1983:2	1983:3	1983:4	ANNUAL AVERAGE 1983
WAGES AND SALARIES	5.089	5.126	5.180	5.301	5.174	5.470	5.554	5.606	5.699	5.582
PLUS: OTHER LABOR INCOME	0.444	0.441	0.440	0.443	0.442	0.449	0.456	0.461	0.467	0.459
PLUS: PROPRIETORS' INCOME	0.345	0.349	0.359	0.370	0.356	0.376	0.381	0.386	0.394	0.384
PLUS: PROPERTY INCOME	0.617	0.629	0.642	0.656	0.636	0.672	0.689	0.709	0.730	0.700
PLUS: TRANSFER PAYMENTS	0.526	0.507	1.385	1.402	0.955	0.702	0.695	0.744	0.760	0.725
PLUS: RESIDENCE ADJUSTMENT	-0.402	-0.406	-0.413	-0.435	-0.414	-0.474	-0.534	-0.547	-0.567	-0.530
LESS: EMPLOYEE CONTRIBUTIONS SOC INS	0.349	0.373	0.368	0.379	0.367	0.398	0.428	0.421	0.434	0.420
EQUALS:PERSONAL INCOME,RESIDENCE BASIS	6.271	6.272	7.225	7.357	6.782	6.798	6.814	6.938	7.049	6.900

CONSUMER PRICE INDICES-ANCHORAGE (1967=1.000)

APPAREL AND UPKEEP	1.865	1.880	1.896	1.910	1.888	1.925	1.942	1.960	1.978	1.951
FOOD AND BEVERAGES	2.806	2.821	2.854	2.894	2.844	2.934	2.974	3.017	3.063	2.997
ENTERTAINMENT	2.393	2.421	2.448	2.477	2.435	2.505	2.534	2.563	2.594	2.549
HOUSING	2.557	2.595	2.634	2.672	2.615	2.707	2.739	2.772	2.806	2.756
TRANSPORTATION	2.617	2.624	2.649	2.686	2.644	2.722	2.762	2.802	2.842	2.782
MEDICAL CARE	3.348	3.421	3.496	3.572	3.459	3.650	3.729	3.810	3.894	3.771
OTHER GOODS AND SERVICES	2.294	2.326	2.358	2.390	2.342	2.424	2.452	2.480	2.509	2.466
ALL ITEMS	2.565	2.605	2.640	2.678	2.622	2.714	2.749	2.785	2.822	2.767

AVERAGE HOURLY EARNINGS (DOLLARS, SEASONALLY ADJUSTED)

MINING	21.24	21.55	21.95	22.38	21.78	22.79	23.20	23.62	24.06	23.42
CONTRACT CONSTRUCTION	22.30	22.93	22.71	22.51	22.61	23.44	24.66	24.23	24.25	24.14
MANUFACTURING (AEIRS DEFINITION)	14.72	14.97	15.09	15.43	15.05	15.94	15.94	15.98	16.29	16.04
WHOLESALE TRADE	11.62	12.05	12.46	12.62	12.19	12.72	13.12	13.47	13.49	13.20
RETAIL TRADE*	8.91	9.03	9.17	9.30	9.11	9.43	9.56	9.68	9.81	9.62

FORECAST PERIODS ARE: INCOME (1981:4 TO 1983:4)
PRICES (1982:2 TO 1983:4)
EARNINGS (1982:1 TO 1983:4)

*EXCEPT EATING AND DRINKING PLACES
CPI'S ARE FOR ALL URBAN CONSUMERS.

MODIFIED BASE CASE

(EXCLUDES PERMANENT FUND DIVIDEND PROGRAM)

TABLE II

STATE OF ALASKA

INCOME, PRICES, AND WAGES

INCOME (BILLIONS OF DOLLARS, SEASONALLY ADJUSTED, ANNUAL RATE)

	1982:1	1982:2	1982:3	1982:4	ANNUAL AVERAGE 1982	1983:1	1983:2	1983:3	1983:4	ANNUAL AVERAGE 1983
WAGES AND SALARIES	5.089	5.126	5.150	5.258	5.156	5.441	5.520	5.559	5.655	5.544
PLUS: OTHER LABOR INCOME	0.444	0.441	0.440	0.441	0.442	0.448	0.454	0.459	0.464	0.456
PLUS: PROPRIETORS' INCOME	0.345	0.349	0.358	0.367	0.355	0.373	0.377	0.384	0.392	0.382
PLUS: PROPERTY INCOME	0.617	0.629	0.641	0.654	0.635	0.670	0.687	0.706	0.727	0.698
PLUS: TRANSFER PAYMENTS	0.526	0.507	0.554	0.570	0.539	0.551	0.544	0.594	0.610	0.575
PLUS: RESIDENCE ADJUSTMENT	-0.402	-0.406	-0.411	-0.431	-0.412	-0.471	-0.530	-0.543	-0.562	-0.527
LESS: EMPLOYEE CONTRIBUTIONS SOC INS	0.349	0.373	0.365	0.376	0.366	0.395	0.425	0.417	0.430	0.417
EQUALS:PERSONAL INCOME,RESIDENCE BASIS	6.271	6.272	6.366	6.484	6.349	6.617	6.627	6.741	6.855	6.710

CONSUMER PRICE INDICES-ANCHORAGE (1967=1.000)

APPAREL AND UPKEEP	1.865	1.880	1.896	1.910	1.888	1.925	1.942	1.960	1.978	1.951
FOOD AND BEVERAGES	2.806	2.821	2.854	2.894	2.844	2.934	2.974	3.017	3.063	2.997
ENTERTAINMENT	2.393	2.421	2.448	2.477	2.435	2.505	2.534	2.563	2.594	2.549
HOUSING	2.557	2.595	2.634	2.672	2.615	2.707	2.739	2.772	2.806	2.756
TRANSPORTATION	2.617	2.624	2.649	2.686	2.644	2.722	2.762	2.802	2.842	2.782
MEDICAL CARE	3.348	3.421	3.496	3.572	3.459	3.650	3.729	3.810	3.894	3.771
OTHER GOODS AND SERVICES	2.294	2.326	2.358	2.390	2.342	2.424	2.452	2.480	2.509	2.466
ALL ITEMS	2.565	2.605	2.640	2.678	2.622	2.714	2.749	2.785	2.822	2.767

AVERAGE HOURLY EARNINGS (DOLLARS, SEASONALLY ADJUSTED)

MINING	21.24	21.55	21.95	22.38	21.78	22.79	23.20	23.62	24.06	23.42
CONTRACT CONSTRUCTION	22.30	22.93	22.71	22.51	22.61	23.44	24.67	24.24	24.26	24.15
MANUFACTURING (AEIRS DEFINITION)	14.72	14.97	15.09	15.43	15.05	15.94	15.94	15.98	16.29	16.04
WHOLESALE TRADE	11.62	12.05	12.46	12.62	12.19	12.72	13.12	13.47	13.49	13.20
RETAIL TRADE*	8.91	9.03	9.17	9.30	9.11	9.43	9.56	9.68	9.81	9.62

FORECAST PERIODS ARE: INCOME (1981:4 TO 1983:4)
PRICES (1982:2 TO 1983:4)
EARNINGS (1982:1 TO 1983:4)

*EXCEPT EATING AND DRINKING PLACES
CPI'S ARE FOR ALL URBAN CONSUMERS.

BASE CASE FORECAST

TABLE III
STATE OF ALASKA
SELECTED FINANCIAL BALANCES AND FLOWS
(MILLIONS OF DOLLARS)

COMMERCIAL AND MUTUAL SAVINGS BANKS

	1978:1	1978:2	1978:3	1978:4	ANNUAL AVERAGE 1978	1979:1	1979:2	1979:3	1979:4	ANNUAL AVERAGE 1979
CASH AND DUE FROM BANKS	213.7	248.3	275.0	249.8	246.7	228.7	228.0	272.4	248.5	244.4
SECURITIES	437.3	465.2	508.9	514.0	481.4	500.1	581.6	694.5	654.7	607.7
LOANS AND DISCOUNTS	1,170.3	1,244.3	1,286.0	1,242.2	1,235.7	1,222.7	1,266.0	1,262.2	1,210.1	1,240.2
OTHER ASSETS	130.3	131.8	128.0	127.0	129.3	130.1	134.7	136.5	135.2	134.1
TOTAL ASSETS	1,951.5	2,089.7	2,198.0	2,133.1	2,093.1	2,081.6	2,210.2	2,365.7	2,248.4	2,226.5
DEMAND DEPOSITS	666.8	733.6	788.5	709.3	724.5	666.2	707.5	762.3	684.1	705.0
TIME DEPOSITS	973.2	1,017.5	1,069.6	1,038.0	1,024.6	1,022.2	1,083.6	1,134.6	1,116.1	1,089.2
OTHER LIABILITIES AND CAPITAL	311.6	338.6	339.9	385.8	344.0	393.2	419.1	468.8	448.1	432.3

SAVINGS AND LOAN ASSOCIATIONS

DEPOSITS,BEGINNING OF QUARTER	216.6	216.3	212.4	219.9	216.3	212.9	211.4	228.3	230.2	220.7
HOLDINGS OF JUMBO CD'S*	42.5	46.2	37.0	44.4	42.5	37.8	38.2	54.7	60.8	47.9
NEW SAVINGS LESS WITHDRAWALS	-8.4	1.6	3.5	-11.3	-3.7	-2.2	8.3	-2.0	3.4	1.9
CHANGE IN MORTGAGE PORTFOLIOS	-1.8	14.0	-5.6	-2.6	1.0	-4.8	4.6	-2.2	-11.6	-3.5
NEW LENDING	16.4	33.6	28.6	26.5	26.3	15.4	22.6	17.5	12.1	16.9
MORTGAGE RATE (%)-SEATTLE	9.5	9.7	10.0	10.2	9.8	10.6	10.7	11.1	11.4	10.9

THE FORECAST PERIOD IS 1982:1 TO 1983:4
*CERTIFICATES OF $100,000 OR MORE

BASE CASE FORECAST

TABLE III
STATE OF ALASKA
SELECTED FINANCIAL BALANCES AND FLOWS
(MILLIONS OF DOLLARS)

COMMERCIAL AND MUTUAL SAVINGS BANKS

	1980:1	1980:2	1980:3	1980:4	ANNUAL AVERAGE 1980	1981:1	1981:2	1981:3	1981:4	ANNUAL AVERAGE 1981
CASH AND DUE FROM BANKS	274.2	339.6	401.7	353.8	342.3	429.1	398.9	457.7	419.2	426.2
SECURITIES	640.4	733.9	860.6	871.4	776.6	851.5	870.0	895.3	925.0	885.5
LOANS AND DISCOUNTS	1,159.2	1,110.5	1,174.0	1,143.0	1,146.7	1,143.7	1,177.7	1,277.8	1,251.7	1,212.7
OTHER ASSETS	141.9	147.5	152.2	171.6	153.3	176.2	182.4	186.9	186.4	183.0
TOTAL ASSETS	2,215.8	2,331.5	2,588.5	2,539.8	2,418.9	2,600.5	2,628.9	2,817.7	2,782.4	2,707.4
DEMAND DEPOSITS	638.5	780.1	892.0	785.9	774.1	802.2	839.1	907.1	852.9	850.3
TIME DEPOSITS	1,109.8	1,082.2	1,210.4	1,229.9	1,158.1	1,283.1	1,225.9	1,329.1	1,363.1	1,300.3
OTHER LIABILITIES AND CAPITAL	467.5	469.2	486.1	524.0	486.7	515.2	563.9	581.5	566.4	556.7

SAVINGS AND LOAN ASSOCIATIONS

DEPOSITS,BEGINNING OF QUARTER	232.6	235.7	286.2	333.7	272.0	317.9	353.9	358.7	416.4	361.7
HOLDINGS OF JUMBO CD'S*	70.4	76.0	120.5	157.8	106.2	137.8	180.1	183.9	243.1	186.2
NEW SAVINGS LESS WITHDRAWALS	-7.4	50.8	7.7	19.3	17.6	15.4	30.6	32.6	-29.7	12.2
CHANGE IN MORTGAGE PORTFOLIOS	-1.8	5.3	14.8	-27.2	-2.2	-17.1	4.2	8.4	-10.0	-3.6
NEW LENDING	6.6	22.2	20.3	26.6	18.9	22.5	43.4	49.8	29.6	36.3
MORTGAGE RATE (%)-SEATTLE	12.0	13.7	12.4	13.4	12.9	13.7	14.6	15.6	15.7	14.9

THE FORECAST PERIOD IS 1982:1 TO 1983:4
*CERTIFICATES OF $100,000 OR MORE

BASE CASE FORECAST

TABLE III
STATE OF ALASKA
SELECTED FINANCIAL BALANCES AND FLOWS
(MILLIONS OF DOLLARS)

COMMERCIAL AND MUTUAL SAVINGS BANKS

	1982:1	1982:2	1982:3	1982:4	ANNUAL AVERAGE 1982	1983:1	1983:2	1983:3	1983:4	ANNUAL AVERAGE 1983
CASH AND DUE FROM BANKS	456.1	480.7	540.9	523.0	500.2	497.9	524.6	588.8	561.2	543.1
SECURITIES	902.8	1,011.1	1,013.4	1,010.4	984.4	997.4	1,082.0	1,223.1	1,176.7	1,119.8
LOANS AND DISCOUNTS	1,230.1	1,279.9	1,319.6	1,320.6	1,287.5	1,288.3	1,355.6	1,396.4	1,369.4	1,352.4
OTHER ASSETS	193.8	194.9	196.2	204.6	197.4	208.8	208.9	202.4	213.6	208.4
TOTAL ASSETS	2,782.8	2,966.6	3,070.1	3,058.6	2,969.5	2,992.4	3,171.1	3,410.6	3,320.9	3,223.7
DEMAND DEPOSITS	866.8	917.7	989.6	923.8	924.5	912.5	1,034.5	1,114.8	1,039.8	1,025.4
TIME DEPOSITS	1,378.3	1,416.7	1,538.8	1,531.9	1,466.4	1,471.9	1,505.4	1,630.1	1,617.3	1,556.2
OTHER LIABILITIES AND CAPITAL	537.8	632.2	541.7	602.9	578.6	608.1	631.1	665.6	663.8	642.2

SAVINGS AND LOAN ASSOCIATIONS

DEPOSITS,BEGINNING OF QUARTER	406.9	405.5	420.1	433.0	416.4	444.6	456.4	470.8	486.7	464.6
HOLDINGS OF JUMBO CD'S*	236.6	226.8	240.4	252.4	239.1	263.3	274.2	287.7	302.5	281.9
NEW SAVINGS LESS WITHDRAWALS	-6.6	-14.9	2.1	3.4	-4.0	3.4	4.5	6.4	7.1	5.3
CHANGE IN MORTGAGE PORTFOLIOS	-1.9	8.7	20.5	14.9	10.6	-4.3	27.2	24.0	8.7	13.9
NEW LENDING	23.4	45.6	46.9	45.5	40.3	29.3	57.1	53.5	49.9	47.5
MORTGAGE RATE (%)-SEATTLE	15.6	15.4	14.8	14.7	15.1	14.9	14.7	14.3	14.2	14.5

THE FORECAST PERIOD IS 1982:1 TO 1983:4
*CERTIFICATES OF $100,000 OR MORE

Notes on Table IV - Accuracy of Data Resources, Inc., Interest Rate Forecast

In each quarter of the forecast period, the actual interest rate, the DRI forecasted interest rate, and the naively determined forcasted interest rate were recorded. From these data, we calculated the percentage of error, in the DRI and naive forecasts by quarter. The formula used to determine this error was 100 (P-A)/A, where P is the predicted value of the interest rate and A is the actual value. The average value of the actual interest rate is computed for the period covered by the forecast, as are the averages for the DRI and naive forecasts. The average error is the root mean square error, in percentage terms. This is probably the most popular way to calculate the average percentage error in a set of predictions when the forecast spans several time periods. The formula used is:

$$100[(1/N)\Sigma(P\text{-}A)^2/A^2]]^{1/2}$$

where, as before, P = predicated value, A = actual value,
N = number of observations.

The following are the data sources for Table IV:

Table IV.1: The Data Resources Review of the U.S. Economy, May, 1980 issue, Data Resources, Inc., Lexington, MA,

Table IV.2: Ibid, August, 1980 issue,

Table IV.3: Ibid, November, 1980 issue,

Table IV.4: Ibid, February, 1981 issue.

Table IV.1

Short Term Rates	80:1	80:2	80:3	80:4	81:1	81:2	81:3	81:4	82:1	Average	
90-day U.S. Treasury Bills											
Actual	13.35	9.62	9.35	13.61	14.39	14.91	15.05	11.75	12.81	12.69	
DRI Forecast	-	13.72	12.38	11.07	9.98	9.51	9.35	9.37	9.61	10.62	
% Error, DRI Forecast *	-	42.6	32.4	-18.7	-30.6	-36.2	-37.9	-20.3	-25.0	31.49	**
"Naive" Forecast	-	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35	
% Error, "Naive" Forecast *	-	38.8	42.8	-1.9	-7.2	-10.5	-11.3	13.6	4.2	21.88	**
90-day Euro-dollar Rate											
Actual	16.13	12.74	10.74	16.46	16.83	17.62	18.36	14.26	14.95	15.25	
DRI Forecast	-	17.70	15.29	13.07	11.58	10.51	10.12	10.26	10.47	12.38	
% Error, DRI Forecast *	-	38.9	42.4	-20.6	-31.2	-40.4	-44.9	-20.3	-25.0	31.49	**
"Naive" Forecast	-	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35	13.35	
% Error, "Naive" Forecast *	-	38.8	42.8	-1.9	-7.2	-10.5	-11.3	13.6	4.2	21.88	**
Long Term Rates											
State and Local AAA General Obligation Bonds											
Actual	7.34	7.29	7.91	8.84	9.31	9.85	10.95	11.60	12.15	9.74	
DRI Forecast	-	8.04	7.81	7.37	7.14	7.05	6.88	7.21	7.40	7.36	
% Error, DRI Forecast *	-	10.3	-1.3	-16.6	-23.3	-28.4	-37.2	-37.8	-39.1	27.56	**
"Naive" Forecast	-	7.34	7.34	7.34	7.34	7.34	7.34	7.34	7.34	7.34	
% Error, "Naive" Forecast *	-	0.7	-7.2	-17.0	-21.2	-25.5	-33.0	-36.7	-39.6	26.08	**
Moody's AAA Corporate Bonds											
Actual	12.14	11.20	11.58	12.83	13.15	13.98	14.92	14.62	15.01	13.41	
DRI Forecast	-	12.82	12.23	11.83	11.11	10.93	10.84	10.81	10.88	11.43	
% Error, DRI Forecast *	-	14.5	5.6	-7.8	-15.6	-21.8	-27.3	-26.1	-27.5	20.01	**
"Naive" Forecast	-	12.14	12.14	12.14	12.14	12.14	12.14	12.14	12.14	12.14	
% Error, "Naive" Forecast *	-	8.4	4.8	-5.4	-7.8	-13.2	-18.6	-17.0	-19.1	13.02	**

Table IV.2

Short Term Rates	80:2	80:3	80:4	81:1	81:2	81:3	81:4	82:1	Average	
90-day U.S. Treasury Bills										
Actual	9.62	9.35	13.61	14.39	14.91	15.05	11.75	12.81	13.12	
DRI Forecast	-	7.20	6.95	6.78	7.10	7.35	7.60	8.07	7.29	
% Error, DRI Forecast *	-	-23.0	-48.9	-53.1	-52.4	-51.2	-35.3	-37.0	44.23	**
"Naive" Forecast	-	9.62	9.62	9.62	9.62	9.62	9.62	9.62	9.62	
% Error, "Naive" Forecast *	-	2.9	-29.3	-33.1	-35.5	-36.1	-18.1	-24.9	27.97	**
90-day Error-dollar Rate										
Actual	12.74	10.74	16.46	16.83	17.62	18.36	14.26	14.95	15.60	
DRI Forecast	-	9.12	8.43	8.10	8.65	8.98	9.38	10.03	8.96	
% Error, DRI Forecast *	-	15.1	-48.8	-51.9	-50.9	-51.1	-34.2	-32.9	42.69	**
"Naive" Forecast	-	12.74	12.74	12.74	12.74	12.74	12.74	12.74	12.74	
% Error, "Naive" Forecast *	-	18.6	-22.6	-24.3	-27.7	-30.6	-10.7	-14.8	22.31	**
Long Term Rates										
State and Local AAA General Obligation Bonds										
Actual	7.29	7.91	8.84	9.31	9.85	10.95	11.60	12.15	10.98	
DRI Forecast	-	6.64	6.44	6.38	6.23	6.42	6.46	6.60	6.45	
% Error, DRI Forecast *	-	-16.1	-27.1	-31.5	-36.8	-41.4	-44.3	-45.7	36.05	**
"Naive" Forecast	-	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	
% Error, "Naive" Forecast *	-	-7.8	-17.5	-21.7	-26.0	-33.4	-37.2	-40.0	28.32	**
Moody's AAA Corporate Bonds										
Actual	11.20	11.58	12.83	13.16	13.98	14.92	14.62	15.01	13.73	
DRI Forecast	-	10.74	10.09	9.77	9.82	9.89	9.98	10.14	10.06	
% Error, DRI Forecast *	-	-7.3	-21.4	-25.8	-29.8	-33.7	-31.7	-32.4	27.40	**
"Naive" Forecast	-	11.20	11.20	11.20	11.20	11.20	11.20	11.20	11.20	
% Error, "Naive" Forecast *	-	3.3	-12.7	-14.9	-19.9	-24.9	-23.4	-25.4	19.28	**

Table IV.3

Short Term Rates	80:3	80:4	81:1	81:2	81:3	81:4	82:1	Average
90-day U.S. Treasury Bills								
Actual	9.35	13.61	14.39	14.91	15.05	11.75	12.81	13.75
DRI Forecast	-	10.83	9.80	9.90	10.29	11.09	11.40	10.57
% Error, DRI Forecast *	-	-20.4	-31.9	-33.6	-31.0	-5.6	-11.0	24.14 **
"Naive" Forecast	-	9.35	9.35	9.35	9.35	9.35	9.35	9.35
% Error, "Naive" Forecast *	-	-31.3	-35.0	-37.3	-37.9	-20.4	-27.0	31.59 **
90-day Error-dollar Rate								
Actual	10.74	16.46	16.83	17.62	18.26	14.26	14.95	16.41
DRI Forecast	-	12.49	10.80	11.07	11.82	12.62	13.03	11.97
% Error, DRI Forecast *	-	-24.1	-35.8	-37.2	-35.6	-11.5	-12.8	29.82 **
"Naive" Forecast	-	10.74	10.74	10.74	10.74	10.74	10.74	10.74
% Error, "Naive" Forecast *	-	-34.8	-36.2	-39.0	-41.5	-24.7	-28.2	34.56 **
Long Term Rates								
State and Local AAA General Obligation Bonds								
Actual	7.91	8.84	9.31	9.85	10.95	11.60	12.15	10.45
DRI Forecast	-	8.39	7.93	7.61	8.03	8.39	8.61	8.16
% Error, DRI Forecast *	-	-5.1	-14.8	-22.7	-26.7	-27.7	-29.1	22.69 **
"Naive" Forecast	-	7.91	7.91	7.91	7.91	7.91	7.91	7.91
% Error, "Naive" Forecast *	-	-10.5	-15.0	-19.7	-27.8	-31.8	-34.9	24.92 **
Moody's AAA Corporate Bonds								
Actual	11.58	12.83	13.16	13.98	14.92	14.62	15.01	14.09
DRI Forecast	-	11.98	11.87	11.72	11.63	11.70	11.86	11.79
% Error, DRI Forecast *	-	-6.6	-9.8	-16.2	-22.1	-20.0	-22.9	16.97 **
"Naive" Forecast	-	11.58	11.58	11.58	11.58	11.58	11.58	11.58
% Error, "Naive" Forecast *	-	-9.7	-12.0	-17.2	-22.4	-20.8	-22.9	18.21 **

Table IV.4

Short Term Rates	80:4	81:1	81:2	81:3	81:4	82:1	Average
90-day U.S. Treasury Bills							
Actual	13.61	14.39	14.91	15.05	11.75	12.81	13.78
DRI Forecast	-	15.07	13.03	12.03	12.90	13.41	13.29
% Error, DRI Forecast *	-	4.7	-12.6	-20.1	9.8	4.7	11.16 **
"Naive" Forecast	-	13.61	13.61	13.61	13.61	13.61	13.61
% Error, "Naive" Forecast *	-	-5.4	-8.7	-9.6	15.8	6.2	9.32 **
90-day Error-dollar Rate							
Actual	16.46	16.83	17.62	18.36	14.26	14.95	16.40
DRI Forecast	-	18.39	15.07	13.60	14.27	14.94	15.25
% Error, DRI Forecast *	-	9.3	-14.5	-25.9	0.1	0.1	14.03 **
"Naive" Forecast	-	16.46	16.46	16.46	16.46	16.46	16.46
% Error, "Naive" Forecast *	-	-2.2	-6.6	-10.3	15.4	10.1	9.95
Long Term Rates							
State and Local AAA General Obligation Bonds							
Actual	8.84	9.31	9.85	10.95	11.60	12.15	10.77
DRI Forecast	-	9.18	8.95	8.38	8.54	8.84	8.78
% Error, DRI Forecast *	-	1.4	-9.1	-23.5	-26.4	-27.2	20.37 **
"Naive" Forecast	-	8.84	8.84	8.84	8.84	8.84	8.84
% Error, "Naive" Forecast *	-	5.0	-10.3	-19.3	23.8	27.2	19.03 **
Moody's AAA Corporate Bonds							
Actual	12.83	13.16	13.98	14.92	14.62	15.01	14.34
DRI Forecast	-	12.94	12.92	12.65	12.51	12.52	12.71
% Error, DRI Forecast *	-	-1.7	-7.6	-15.2	14.4	-16.6	12.45 **
"Naive" Forecast	-	12.83	12.83	12.83	12.83	12.83	12.83
% Error, "Naive" Forecast *	-	-2.5	-8.2	-14.0	-12.2	-14.5	11.23 **

* Percentage error = 100 X (forecast value - actual value)/actual value, for each quarter's data.

** Root Mean Square Error, in percentage teams, under the column labeled Average.